The world is urbanising rapidly, particularly in those regions where most people live. This results in sprawling, informal settlements and expansion of the built environment. To respond to these challenges in a sustainable way, architects and designers have an important role to play. The environments and spaces that they create also shape the people who inhabit them.

This thesis builds on findings from two architectural design projects conducted in Tanzania and India. It suggests ways for practitioners to bring actors in a design project closer to each other with the help of empathic engagement. The main conclusion is that applying a broad spectrum of empathy as a mindful attitude to the design process enhances horizontal collaboration. The findings support the argument that empathy matters in design — it is a profound ability that we need to cherish and develop.

Through designing with empathy, awareness and love for life, the spaces we create will support quality encounters between people.

Helena Sandman’s motivation in her work is to create harmonious and sustainable spaces that serve their users. She began her practice in Africa two decades ago as a partner in Hollmén Reuter Sandman Architects. The group later founded the non-governmental organisation Ukumbi to provide architectural services for communities in need. Apart from the work with Ukumbi and her own private architecture company, Helena is currently a visiting professor at Base Habitat, University of Art and Design, Linz, Austria, and a founding partner of Leapfrog Projects — a global strategy and design consultancy focusing on ambitious sustainability initiatives. This thesis emerged from her work with the New Global research project at Aalto University from 2014 to 2019.
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Figure 1. Ng’ambo, Zanzibar, Tanzania, 2015.
ABSTRACT

Co-design aims to bring designers and end users together to improve the quality of design projects. Enhancing proximity between these actors is valuable in low- to middle-income countries, where the social distances between them often prevail due to imbalances in, for instance, socioeconomic power, education levels, gender, or geographic origin. This can lead to challenges in collaborative design processes. While participatory work in both design and architecture has a long tradition in the Global North, there is considerably less literature published about such approaches applied in the Global South. Additionally, there is less systematised or visible inhabitant or user engagement in practice and often less capacity for it due to the time constraints of both the participants and the professionals, particularly in the case of formal architect-led projects. As a response, this thesis examines how the different actors can be brought closer to each other and how this proximity can enhance horizontal co-design that aspires to achieve equality. Furthermore, collaboration between actors in the design process can support the local and socio-cultural rootedness of a project.

In this thesis, I understand the concept of design broadly, so that it also encompasses architectural practices. As an architect engaged in spatial design, I see the different forms of design activities as closely related, with the potential for mutual learning. Theoretically, the disciplines of design and architecture have distinctive discourses on participatory engagement and empathy. Thus, I aim to bring these perspectives into a dialogue.

This is doctoral research by publication – a compilation thesis – consisting of five published papers and an introduction or “kappa”, which consists of six chapters. Three of the papers are peer-reviewed journal articles, one is a peer-reviewed book chapter, and one is a journal article that is not peer-reviewed. The introduction binds the papers together and explains the background, theoretical framing, research design, cases, results, and contributions.

Empirically, this practice-led research through design builds upon findings from architectural design projects conducted in Tanzania and India. In this thesis, I study in-depth the design process of two projects: a housing proposal for a community threatened by eviction in Zanzibar, Tanzania, and a maternity ward for women delivering in low- to middle-income settings that was designed for Zanzibar, Tanzania, and Odisha, India. In the design projects, I employed collaborative design methods in working with the future inhabitants and users of the buildings. The results of these collaborative works influenced the design. However, I have achieved the results of this thesis through reflection on the co-design throughout the design and research process. Moreover, I have combined literature reviews with insights gained when retrospectively revisiting the two design processes. The results constitute reflection, recollection and understanding of the design processes and the relationship between myself (the architect) and the inhabitants. Hence, the physical outputs of the designs are not part of the research result.

My research presents evidence of the significance of empathy in the design process. In the two design projects, I identified the benefits of empathising during the different stages of the design process. Thus, I argue for the adoption of an empathic approach that guides the design process from the beginning, throughout the project, and beyond. Designers can empathise both from a distance and when being closely immersed with the end-users. These understandings result in the presentation of three registers of empathy: empathy from a distance, engaging empathy and empathy in depth. My analyses of these registers indicate that there is no need to exclude one or another register. They can all be combined to complement each other or utilised in different circumstances when one of them might be more appropriate than another. Through the presentation of the registers, this research draws attention to the potential offered by empathic engagement and supports designers and architects in becoming aware of their empathic abilities.

My main conclusion is that utilising the whole spectra of the resulting registers of empathy enhances the proximity between actors and thus horizontality within the design process. Additionally, from a theoretical point of view, these registers of empathy clarify and reconnect the divergent interpretations of the concept of empathy in the fields of design and architecture. Moreover, employing the registers can have a wider value, not only for practice in both fields but also for research within and across these fields. In conclusion, this thesis supports the argument that empathy matters in design — it is a profound ability that we need to cherish. Moreover, potentially, and as a suggestion for further research, designing with empathy produces spaces that encourage empathic encounters.
PUBLICATIONS AND AUTHOR CONTRIBUTIONS

Paper I

I wrote Paper I with Saija Hollmén and Jenni Reuter, my colleagues in practice for the last 25 years. We together wrote the paper based on earlier drafts and mutual discussions that also sometimes included the architect and critic, Dr. Rasmus Wærn. Whereas Jenni Reuter gave a keynote speech on the same topic, I was responsible for handling the amendments suggested by the editors.

Paper II

I wrote Paper II with Jarkko Levänen and Nina Savela, who were my colleagues in the New Global research group at the time. In the ideation phase, Sara Lindeman also took part as the leader of the research group. Further, we relied on several people and data sources: Nina Savela gathered the data for the housing case in Namibia during work on her master’s thesis; the data for the Tanzanian housing case come from Sara Lindeman’s and Tim Ndezi’s publications and my own experiences while visiting the place, whereas the data for the Chilean case came solely from the literature. Jarkko Levänen contributed to the paper with his knowledge of sustainability and research experience. Notwithstanding, I am the first author of the paper and was in charge of corresponding with the editors and handling the improvements in the review process.

Paper III

I am the sole author of Paper III.

Paper IV

I wrote Paper IV with Miia Suomela, who was writing her master’s thesis in architecture on the topic of resilience under my supervision at the time. The paper was based on a presentation I gave at a conference. I carried out the ideation and structure of the paper as well as the probing in Ng’ambo and wrote the section covering the Ng’ambo project, while Miia Suomela executed the design probing in Chuini as part of the work with her master’s thesis and wrote the section about Chuini. We collaborated on the other sections, corresponded with the editor of the chapter, and handled the enhancements in the review process together. Nevertheless, I am the first author of the paper.

Paper V

I wrote Paper V with Tarek Meguid and Jarkko Levänen. Tarek Meguid was based in Zanzibar as a head obstetrician in the Mnazi Moja hospital while we conducted the background research for the maternity-ward project. He contributed to this paper with his long-term experience in the state of maternity wards and maternal health in Africa. On the other hand, Jarkko Levänen was my colleague in the New Global research group, designed the study with me, contributed to the more general sections of the paper and followed and commented on the paper along the process. Nonetheless, I am the first author of it.
Figure 2. Women’s Center in Rufisque, Senegal, 2001. Hollmén Reuter Sandman Architects. Photo Juha Ilonen.
“The world we make in turn makes us, inscribing how we are being and becoming with others.” (Akama, 2015, p. 267)

As the design researcher Yoko Akama states in the quotation above, what I conceive as an architect has significance for other people. In other words, when I design a space meant for people to inhabit, the quality of the design process as well as the quality of the built space affect the users of the space and myself.

I have been professionally involved as an architect in projects in low- to middle-income countries since my graduate studies in the 1990s. Through my work with my colleagues, Saija Hollmén and Jenni Reuter, and with the non-governmental organisation (NGO) Ukumbi that I co-founded with them in 2007, I have had the opportunity to design small public buildings in Senegal (Fig. 2), Egypt and Tanzania. Additionally, my experience has taken me to Rwanda, Malawi, India, Cambodia and Vietnam for other architectural design projects and teaching. All the projects have focused on sustainable architectural solutions through engagement with the people who would use the buildings and who have often belonged to vulnerable groups of the society, such as unemployed women in Senegal, children of the garbage collector community in Cairo, orphans, or victims of domestic violence in Tanzania. However, in several of these projects, the process of participatory design was complex and difficult and did not generally reach the level of horizontal collaboration and profundness that I had hoped for. This motivated me to dive deeper into the matter of co-design and to study the social distance, that is, the psychological and sometimes physical distance between the architects and the future dwellers, and to assess the potential for reducing it.

Eight years ago, I was part of a group of architects writing the Laufen Manifesto for a Humane Design Culture, initiated by the architect, Anna Heringer. We had the intention, through the manifesto, to “awaken our profession to multiply our efforts to improve the ecological, social, and aesthetic quality of the built environment” (Heringer et al., 2013, p. 1). We also wanted to develop more effective design strategies to cope with future population growth on a global scale in a sustainable way (Heringer et al., 2013). The process of writing together as a means of promoting sustainable development and change also opened my eyes to the possibility of personally contributing in this way.

Shortly after, I got the opportunity to join the New Global interdisciplinary research project and group established by Sara Lindeman, a specialist in inclusive business and my teaching partner for many years. New Global invited me to map my own research journey within the topic of the project: co-creating a sustainable future globally through multi-stakeholder innovations in the Global South in co-creation with the bottom of the pyramid (Prahalad & Hart, 2002) — the majority population of the world in terms of socio-economic status (New Global, 2019). Hence, the starting point for my research was set by my long-term experience of practice in low- to middle-income countries, lecturing and teaching student groups in these settings, and the broad global and transdisciplinary sustainability perspective of the New Global project and the other members of the group. Within the context of New Global I had the privilege of working with the projects in Tanzania and India, which became part of this thesis. In conclusion, I chose the path of exploring socio-cultural sustainability and inhabitant engagement, narrowing it down by testing particular participatory methods and ultimately examining the role of empathy as part of the design process.

After a long journey, I have now reached my destination with the completion of this thesis, in which I propose an empathic approach that brings actors closer to each other and thus supports locally rooted socio-culturally sustainable design results. I am aware that my exploration covers only a limited part of the territory of socio-cultural sustainability and empathy in design in low- to middle-income countries and that my destination is only one stop on the path. Therefore, I am relieved that other people are on similar journeys, exploring related but different areas on other paths. This territory is proving highly topical nowadays, amid the COVID-19 pandemic, the rising sea levels and the active fires caused by climate change, and more displaced people globally due to conflicts or disaster than ever before. Consequently, I believe that designers and architects need greater awareness of sustainability and a more empathic attitude in their work in order to enhance their actions.
Figure 3. Today, 55% of the world population live in urban areas (The World Bank Data, 2020). Dar es Salaam, Tanzania, 2014.
1 MOTIVATION

How can we, as architects and designers, contribute to making this world a better place? Like the architect Anupama Kundoo (2018), I am concerned about the major challenges of rapid urbanisation, climate change and people’s unsustainable living conditions. My particular interest lies in the way these challenges are met in cities of low- to middle-income countries — inhabited by the majority of the world’s population — where the development of the built environment often seems to create more problems than it solves. Regarding the current state of the world, with the human race exceeding the planetary boundaries (Rockström, 2015), we architects need to expand our capabilities in order for us to be useful where we are needed the most.

In Chapter 1, I explain my societal, professional and research motivation for this work. This section also forms the foundation and theoretical background for the study. It crosses multiple disciplines through the common ground of the social and cultural aspects of architecture and design in low- to middle-income countries. From a societal point of view, socio-cultural sustainability has not always been equally acknowledged compared to the environmental or economic dimensions of sustainability. This sector of sustainability is relevant in the contexts that bear the most urgent need for solutions to sustainability challenges: fast-growing urban areas in low- to middle-income countries. However, in these countries, professional architects are scarce, and those active in the field have considerable responsibilities that might force them to limit their contribution to socio-cultural sustainability. Therefore, there is a need to support architects active in these settings with practical and time-effective solutions and work methods that incorporate these aspects of sustainability.

Architects can to a considerable extent embrace the incorporation of socio-cultural sustainability through collaborative design activities between professionals, with other stakeholders, and with inhabitants or community members. Nevertheless, for multiple potential reasons this is not always easy. For instance, the practising architect in low- to middle-income countries often needs to respond to the challenges of social distance when engaging inhabitants in the design process. Originally, the term social distance was established by the sociologist Robert E. Park (1924) as an attempt to measure the degree of intimacy in social relations (Park, 1924). Park and his contemporaneous sociologist Emory S. Bogardus (1925), who presented a social distance scale for its measurement, often refer to ethnicity and class. However, while these are still prevailing reasons for social distance, they are not the only ones. Here, I refer to social distance as the distance between the architect and the inhabitants and other actors, as well as to the distances within a particular group of people.

1 84% of the world’s population live in low and middle-income countries, according to the World Bank (2020) classification. I have chosen, in this introduction, to mainly use the concept of low- to middle-income countries to define the places where I work. This is based on the classification of countries into four categories: low income, lower-middle-income, upper-middle-income and high income (World Bank, 2020). In this regard, Tanzania, one of the countries where I have been practising, is classified as a lower middle-income country with an average daily salary of 3–11 USD/day (based on average GNI per capita of USD 1036–4045). Furthermore, according to the statisticians Hans Rosling, Ola Rosling and Anna Rosling Rönnlund (2018), the countries should be classified on four income levels, where levels 1–3 include people with an average daily salary of 1–32 USD/day — these are the settings where the majority of the world, six out of seven billion people, reside. I am aware that the classification according to income levels does not fully explain the places, settings and communities that I refer to because all the aspects do not relate to income. Nevertheless, in the contexts that I refer to, development happens fast; sustainability challenges need urgent attention; many people lack the access to education beyond primary school; people are frequently in vulnerable positions without agency due to societal structures; and hierarchies or inequality in the society can hinder the possibilities for horizontal collaborative design activities. This definition is unfortunately not used in the papers included in this thesis because they were written before this introduction in which I decided to use the World Bank classification. Additionally, the vocabulary was sometimes delineated by earlier texts written by my co-authors.

2 Regarding the differentiation of the disciplines of design and architecture, I agree with the architect Jilly Traganou (2009) who proposes that there is a continuum from daily products, service design and interiors to bigger spatial structures. In this introduction I alternate between the terms architect and designer because the literature originates in both disciplines. Furthermore, I am always addressing both architects and designers. I refer to myself as an architect, although I see architecture as one form of design. The projects used as case studies are architectural design projects in which I employed collaborative and participatory design methodologies.
There are situations in which the architect might come from a different level of society than the inhabitants due to the privilege of education, or from another geographical location, or may speak another language. Additionally, there might be a social distance between the participants that originate, for instance, in the hierarchies of the society, differences in income levels, educational opportunities, power structures, cultural/language barriers, or gender inequality (Messeter, Claassen, & Finnan, 2012). Intersecting inequalities as part of the design process are discussed and responded to in, for instance, the discourse of design justice that “focuses on the ways that design reproduces, is reproduced by, and/or challenges the matrix of domination (white supremacy, heteropatriarchy, capitalism, and settler colonialism)…” and “aims to ensure a more equitable distribution of design’s benefits and burdens” (Costanza-Chock, 2021, p. 340). The dilemma of intersecting inequalities is originally and further theorised in gender and culture studies in terms of concepts such as intersectionality, that “investigates how intersecting power relations influence social relations across diverse societies as well as individual experiences in everyday life” (Hill Collins & Bilge, 2020, p.2). The relationships between different categories of people, like race, class, gender, ethnicity or age are interrelated and mutually shape one another in diverse ways over time (Hill Collins & Bilge, 2020). Likewise, in human-centred design discourse, Mikael Johnson proposes that the relational distances can be caused by stagnant boundaries between inherently different groups. However, more often it is contingent, shifting, and relative, and, thus, can shift over time (Johnson, 2013).

Consequently, within the time frame of a design project, there is the potential for actors who are part of the project to mutually shape each other. Thus, respectful and conscious engaging activities can have an improving effect on the relationship between participants. To enhance this, architects can take the role of a facilitator or sometimes a mediator, if that is required. To facilitate collaborative design processes, architects can learn from design, namely with the multiple methods and tools developed within the discipline in recent decades.

The collaborative approaches documented within the design discipline have mainly been developed for design in the contexts of companies and with users in the Global North. Nevertheless, architects employing them in the Global South have the opportunity to develop them further, particularly regarding the consequences of the social distances between actors and with the purpose of reaching horizontality in the design process. By horizontality, I mean here an ideal and pursuit of a condition in which architects and future dwellers can perceive a proximity to each other and collaborate — work together towards a common goal — to create something new, despite the inevitable distance between the architects and the people they are designing for. The differences and asymmetries between groups of people and individuals cannot be entirely resolved, yet we can identify alignments, and aspire towards an egalitarian relation. In a collaborative process, the benefits seldom are symmetrical, but we can try to distribute the benefits equally. I hypothesise that a collaboration striving for horizontal proximity also enhances the rootedness of the design. By this, I mean that a project is rooted in the local culture and thus becomes meaningful to its dwellers and they can feel ownership of the project when it is ready. As studies on collaborative approaches in architectural design for low- to middle-income countries are scarce there is the potential for me to build new theory that could contribute to both architecture and other design works with the endeavour of improving equality in the design process in these regions.

1.1 SOCIAL SUSTAINABILITY IN LOW- TO MIDDLE-INCOME COUNTRIES

“Too many people worldwide subsist in undeserving living conditions, and their ranks are growing by the day” (Herenger et al., 2013, p. 1). Moreover, it is estimated that in 2050 approximately 68% of the world’s population will inhabit urban areas (UN Department of Economic and Social Affairs, 2018). Most of the urban development over the following decades is expected to happen in the poorest parts of the world, where people more intensively move to cities for employment and better services (Salama & Grierson, 2016) (Fig. 3). Therefore, the Sustainable Development Goal 11 — making “cities and human settlements inclusive, safe, resilient, and sustainable” (United Nations, 2018) — is relevant and constitutes a major challenge in

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1 User is terminology employed commonly in product and service design, in which the outputs are used by people (thus users). But in architecture, buildings and space are not products, produced outside one’s living environment and finally offered to people to be used. Buildings and spaces are much more than architectural products as they can be perceived of as a secondary skin and also carry immaterial values, sensations and hope for people (Pallasmaa, 1996). Thus, the word user is not an appropriate term for the dwellers of a building. Nevertheless, in this thesis I am combining literature from design and architecture and I study projects involving both disciplines, thus I alternate between the different terms of user, inhabitant, dweller, or sometimes community member, according to a logic that to me seems relevant to the present context.
low- to middle-income countries. In these contexts, rapid urbanisation, coupled with the absence or ineffectiveness of local housing policies, has resulted in an increasing number of people living in informal settlements, adding to urban sprawl (Golubchikov & Badyina, 2012). Additionally, these unplanned areas are often prone to disasters, lack sufficient infrastructure and are inhabited by the most exposed and potentially vulnerable members of a society. This development is neither inclusive, safe, resilient, nor sustainable. However, we, as architects and designers, have the agency and can extend our capabilities to deal with these challenges. In this regard, Rahul Mehrotra (2020), Professor and Chair of the Department of Urban Planning and Design at Harvard Graduate School of Design, suggested that we architects can expand our role to become a bridge practice connecting grassroots groups to decision-makers.

Typically, the socio-cultural aspects of sustainability are more difficult to both measure and take into account in architectural practice than are the environmental and economic ones. This might be one of the reasons that the significance of the socio-cultural aspects of sustainability is often generalised and understated (Chiu, 2004; Woodcraft, 2014). Cultural worldviews and values, traditions and everyday activities evolve throughout history and have an impact on human activities and thus also on nature (Chiu, 2004). In this regard, if architecture is to become a bridge practice that connects stakeholders, we architects need to acknowledge these values. The South African architect and historian Hannah le Roux (2020) proposes that architects can promote transformative values through embodied and intellectual work that takes into account the past and present ways people live their lives, co-exist, use existing architectural space, apply building materials or construct according to prevailing climate conditions. To gain this understanding, architects need to collaborate with the local community, including the different stakeholders, throughout the design process. Consequently, aiming for sustainable change in fast-growing urban settlements includes co-operation, collaboration, co-ordination, and communication with multiple actors with their various interests and can potentially be a long-term, complex and open-ended processes (Ambole L. A, Swilling, M & M’Rithaa, M.K., 2016). Architecture can be a bridging and transformative practice when driving such processes.

My research is premised on two assumptions. The first assumption is that it is important to emphasise social aspects when striving for sustainable societies, to enable, for example, human health and well-being, affordability and cultural preservation in a community. Additionally, attitudes toward the environment and the use of local resources are strongly shaped by both social and cultural factors. Likewise, conditions such as heritage, sense of place and tradition-bound use of space are critically important when striving for sustainable architecture (Octay, 2016). These factors all belong to the socio-cultural segment of sustainability and are hard to understand and pursue without engaging the local people, dwellers, inhabitants or users in the design process.

Thus, the second assumption is that involving people in the process of shaping a sustainable society will enhance their further appreciation of a development in this direction. In this regard, as noted by the architect Charles Correa (1994), people’s engaged participation is an essential aspect of the well-being of our habitat. Moreover, according to scholars associated with the Stockholm Resilience Centre, broadening participation is one of the core principles when addressing both the social and ecological aspects of a sustainable outcome (Simonsen et al., 2015). Consequently, these assumptions stand as a foundation of my research.

### 1.2 THE EXPANDING ROLE OF THE ARCHITECT

Architecture forms the built environment that surrounds us and the places we inhabit. It is associated with aesthetic, structural and functional spatial qualities. However, to respond to the complex sustainability challenges in low- to middle-income parts of the world, we, as architects, need to broaden our view of the field. Architecture needs to more effectively encompass the complexity of phenomena such as environmental health and the climate crisis, social inclusiveness and immigration challenges, economic equity and poverty. These are all realities of today that architects and designers working in low- to middle-income countries have to be aware of and capable of tackling professionally. Consequently, architecture needs to open up to other professions because it cannot, in isolation, properly manage the challenges ahead. As the architect Alejandro Aravena (2016, p. 23) and curator of the 55th Venice Architecture Biennale, “Reporting from the Front” states: “architecture is called on to respond to more than one dimension at a time, integrating a variety of fields instead of choosing one or another.” This view is supported by Mehrotra (2020), who suggests that we need to facilitate cultural empathy between disciplines. Essentially, the synergy of combined differences provides the endeavour to tackle global challenges with the agency the effort needs to evolve (Schmachenberger, 2019).

One of the tasks of architecture is to mediate human relationships, such as the relationships between humans and the built environment, and between the built environment and nature. The Finnish architect and author Juhani Pallasmaa (2020) is concerned that rapid urban growth and commercial interests threaten this existential task because the latter lead to a replacement of visionary and empathic architects by administrators...
and regulations. Instead of endorsing the acceleration of our world, architecture should slow down and defend cultural rootedness, support human beings to find meaning in life, and strengthen the environments of life (Pallasmaa, 2020). We, as architects, need to safeguard and develop these qualities of our profession in our work.

In recent decades, architectural discourses have been showing a growing interest in the social and humanitarian engagement of the discipline (Lepik, 2010). Aravena (2016) also reflected on this trend when he called out for projects that, apart from artistic and cultural qualities, would respond to social, political, economic and environmental issues.

At the same time, in an article for El Croquis in 2016, the architect Alejandro Zaera-Polo discussed how Charles Jencks’s famous diagram in Architecture 2000 had inspired him and Guillermo Fernandez-Abascal to present a synchronic political compass of contemporary emerging architectural practices (Fig. 4). In this political compass, they ranked 181 emerging practices in categories named after such movements as Techno-critical, Technocratic, Cosmopolitical, Austerity Chic, Constitutionalists, New Historicists, Revisionists, Skeptics/Contingent, Populists and Material Fundamentalists. He positioned architectural firms that “mobilise social consciousness and re-engage the architectural object with the community” in the area of Activists, and he described them as having a focus on development, rejecting customary procurement processes, relying on non-conventional funding strategies, and engaging communities in both design and construction (Zaera-Polo, 2016, p. 257). The compass indeed indicates that there are several emerging practices from both the Global North and the Global South that are motivated by the social aspects of architecture.

Parallel to this discourse, there has been a flourishing interest amongst young architects to engage in projects with social impact and tackle the challenges of the world (Lepik, 2010; Stohr, 2006). On this point, the architect Kate Stohr (2006, p. 53), co-founder of the organisation Architecture for Humanity, asked whether “the beginning of the twenty-first century will be remembered as the golden era of socially conscious design” and responded that this might depend on whether architects and designers are willing to be humble and reach beyond their normal comfort zone (Stohr, 2006). However, there is also an ongoing debate on whether European and American design is potentially a new form of colonialism, in which designers with good intentions presume too much in their attempt to do good (Nussbaum, 2010). In a recent study, the design researcher Mahmoud Keshavarz (2020) argued that the endeavours of humanitarian designers might only reinforce a pervasive structure that divides the world into the helpless and those who can help, depriving people of their agency. He suggested that architects and designers should be aware of the political structures that lie behind the challenge faced, actively working for a redistribution of wealth and global resources and striving for justice. I agree with Keshavarz regarding the importance of an awareness of the structures underlying the challenges of today. However, I propose that architects use their professional expertise as spatial designers to provide spaces that support justice, inclusiveness and trust. I also see the importance of including local students and professionals in the design process in the case of being an architect or designer from the northern hemispheres working in the Global South. Moreover, I agree with Mehrotra’s (2020) suggestion that we develop our capacities as mediators and facilitators functioning as bridges across levels and between different actors in society, supporting connections between people.

Although professional architects are necessary in rapid urbanisation processes and sometimes legally required by municipal decision-making, there is a general scarcity of professionals in the Global South. Per capita, there are, for instance, 20 times as many professional architects in Europe than there are in Africa (Architects in Europe, 2014; African Union of Architects, 2018), which is due to the lack of educational opportunities (Le Roux, 2014). Nevertheless, the shortage of professionals engenders situations in which local architects might have too many duties or might come from another region or country. Regarding design for low-income communities, the architect almost always belongs to a social level different from that of the inhabitants due to the conceivable lack of opportunities for higher education among the low-income population. These aspects are reflected in the significant social distance between architects and users that needs to be taken into account when designing in such settings.

As a partner in the architectural practice of Hollmén Reuter Sandman Architects and the NGO Ukumbi I participated in an exhibition curated by Aravena in Venice, and our firm was one of the 181 chosen firms that were placed in the political map of Zaera-Polo. This indicated that the societal and environmental concerns of our practice in the last two decades had become visible. Although Zaera-Polo and Fernandez-Abascal interpreted our work as Activism (close to the section of Material Fundamentalists) (Fig. 4), I would personally not choose that word to describe our practice. Since architects sometimes do not aspire to anything other than commercial gain when designing for marginalised communities, it is understandable that our work can be interpreted as either humanitarian architecture or activism. The same conclusion can be drawn if we understand the concept of design activism as design that challenges traditional design practice and catalyses a positive impact on sustainability (Fuad-Luke, 2009). On the contrary, architectural engagement in the Global South by architects from the Global North has often been classified as a form of development aid, which lies at the other end of the political compass spectrum. Development aid could be de-
Figure 4. Hollmén Reuter Sandman Architects is placed in the section of activists in the political compass of architectural firms by Guillermo Fernandez-Abascal and Alejandro Zaera-Polo (Zaera-Polo, 2016).
fined as top-down driven, utilising organised participatory mechanisms and engaging known stakeholders, according to the division of political practices delineated by Edgar Pieterse, the urbanist and Director of the African Centre for Cities at the University of Cape Town (2008). In contrast, the concept of activism is associated with direct action and is bottom-up driven (Pieterse, 2008). Pieterse, however, underlines the difficulty in dividing and naming activities and practices within a complex process marked by dissensus. Thus, our practice, and the work I am recalling in this doctoral research lies somewhere in between. We come from outside the community that we are designing for, we aim to collaborate with a various range of stakeholders, including governmental institutions, we are especially alert to the voice of the coming inhabitants, and we endeavour to support their agency. In our projects, the need for interventions is always born locally, in other words, from the current situation at hand. Thus, I would prefer to define our work as architecture in its most fundamental and essential sense, with no need to categorise it, because I think that all architecture should be designed with respect for the local culture, the local climate, and the local circumstances in general. Additionally, it should endeavour to include local professionals and future users and inhabitants of the buildings in creative collaboration in the design process as far as it is possible. What we have personally been aiming to do is to respond through architectural means to the actual needs of people, places and situations in which our expertise was called for and valued.

This kind of architectural work is seldom free of obstacles. The projects in which we have been engaged have been slow processes presenting several challenges, and the results have not always been fully satisfying. Due to our own capacity and level of engagement and also due to the availability of the communities we have been working with, we have in particular faced challenges with community engagement, not achieving the desired level of horizontal proximity and partnership during the design process that we had hoped for. The barriers have been on both sides, that is, on the side of the architects as well as on the side of the users.

For instance, in the case of the design of a shelter home for victims of domestic violence in the town of Moshi in Tanzania, we could not attain the desirable horizontality (Fig. 5). In this project, we had asked our local partner organisation, who supported abused women, if they could arrange a meeting between us and a group of potential inhabitants of the shelter home. Finally, after several attempts, they managed to convince one young woman to meet us. The woman was very shy and responded kindly but briefly to our questions. Although we were grateful for the opportunity to meet her, the meeting did not result in a co-design process with a group of engaged women that we had wished for. There would have been several different ways to improve the potential for collaboration. For instance, if we would have had the time and knowhow to approach the co-design session differently, it might have reached another level. Nevertheless, we had understood her extreme need for safety, which she probably shared with her fellow victims. In this case, we continued the co-design process with the employees of the local organisation that provided the services for the victims of domestic violence (Fig. 6).

In the case of the Moshi shelter, the future inhabitants were in an extremely vulnerable position. However, there are different grades of vulnerability. For instance, inhabitants in a fast-growing city, who cannot afford augmenting living costs, can in this specific regard temporarily find themselves in a vulnerable position due to the threat of eviction. In other projects I have been involved with, the future occupants of the buildings have been orphans, women in labour or secondary school girls lacking the agency to influence their respective situations due to their position in the society or due to their particular life situation.

Regardless of the level of vulnerability, engaging inhabitants and users in the design process can anyway be challenging. Other scholars and practising architects have recognised similar challenges and called for more research and practitioner attention to inclusive and collaborative architectural design in the Global South (e.g., Goluchikov & Badyina, 2012; Salama...
& Grierson, 2016). In collaboration, solutions that support sustainable development can emerge that individuals would have been unable to achieve on their own (Schmachtenberger, 2019). This motivated me to investigate collaboration further, in order to understand how to improve the abilities of our profession to horizontally engage inhabitants and to learn how to facilitate a fruitful co-design process, a process of designing together.

1.3 DESIGNING TOGETHER

Engaging inhabitants and users in architecture and design has been part of practice and research for half a century. Consequently, there are numerous approaches, methodologies and concepts related to user/inhabitant engagement in design and research work, including participatory design, participatory planning, human-centred design, co-creation, co-design, and empathic design, that all have in common the similar values of respecting the participants’ tacit knowledge (e.g., Muller & Kuhn, 1993; Ehn, 2008; Blundell Jones, Petrescu & Till, 2005). These concepts have originated in different contexts and are defined in distinctive ways. In this section I will clarify the ones that are relevant to my motivation.

The concept of participatory design is most commonly used when discussing urban planning and architecture in the Scandinavian context. It originates in workplace democracy, in which participation was aiming at reducing the distance between people from different levels of the organisational hierarchies, thereby affording them an equal say (e.g., Gregory, 2011; Hyysalo, Jensen & Oudshoorn, 2016; Kensing & Greenbaum, 2013). With reduced distance, there could be more democratic power relations and control over deskilling and workforce-reducing technology introductions (e.g., Hyysalo et al., 2016; Kensing & Greenbaum, 2013). In this approach, workers’ professionalism was recognised, and arrangements were developed that allowed them to participate directly in the design activities (Greenbaum & Kyng 1991; Hyysalo et al., 2016). Since the 1970s, participatory design has been developed to not only involve factory workers, but also a broad field of users, inhabitants and other stakeholders in various design fields. Likewise, the participants are perceived as experts of their own environments and experiences and are thus invited to participate in the design process (Ehn, 2008).

The concept of co-design originates in the tradition of participatory design (Steen, 2013). It has been defined as “collective creativity as it is applied across the whole span of a design process” (Sanders & Stappers, 2008, p. 6). The design researchers Andrea Botero and Sampsa Hyysalo (2013) further defined the term as an enduring interaction in which diverse actors, including inhabitants or users, together with professionals, integrate their knowledge and capacity to generate novel solutions that they would not be able to create on their own.

The concept of co-creation has its origins in business interests in emerging economies and value creation, where it refers to contemporary connected, informed and active consumers who interact with companies and thereby co-create value (Prahalad & Ramaswamy, 2004). In this thesis, I have chosen to mostly use the term co-design when discussing collaborative activities as part of the design projects and co-creation when referring to the New Global research project, because the term was used there.

Similarly, like co-creation, the concept of empathic design has not originated in design, but in knowledge management studies, having been introduced by Dorothy Leonard-Barton (1991) as the creation of products and services based on a deep and empathic understanding of the needs of the users. However, the concept of empathic design has been developed further to encompass a broader field of design where the focal point has moved from the originally commercial aspects to the users’ experiences, feelings and aspirations, with the broader goal of achieving good design (Koskinen, Mattelmäki, & Battarbee, 2003).

Today, in the Global North, the demand for inclusive and collaborative design practice is widely recognised among practitioners and decision-mak-
Designers and architects can conduct participation in many different ways, from merely informing the users to actively co-designing throughout the project. Thus, naming participation as part of the design process can offer a false perception of a project, without really transforming the work (Arnstein, 1969; Blundell Jones et al., 2005). If one neglects power structures in a society while utilising participatory approaches, the participation can become a camouflage of what is going on behind the scenes (Pieterse, 2008). However, thorough participatory design generally requires the long-term involvement of several parties in a community, which is not always possible in fast urban development in disorganised, low-resource settings.

Additionally, as architects work within the public realm with diverse stakeholders, the inequality between actors can be highly complex, including asymmetries, social distances, and dissensus, which cannot be entirely resolved (Keshavarz & Mazé, 2013). Thus, often, if present at all, the practised form of participation might remain symbolic (Emmet, 2000; Davidson et al., 2007). Particularly in architectural projects intended for the majority population, participation could easily be closer to mere “consultation”, as described in Sherry Arnstein’s (1969, p. 2) seminal work regarding the well-known ladder of participation.

In terms of engagement in an urbanisation process, in which the pace of change can be difficult to follow, there are often obstacles from the perspectives of both participants and architects. Engaging people in change can be a chaotic process (Light & Akama, 2012). For an inhabitant, it can be challenging, time-consuming and often impossible to actively influence the outcome (Nielsen, 2014). This defies the proposition that the desire of all parties — clients, architects, and inhabitants — should drive participation (Petrescu, 2005). This desire is often present in a society in the Global North, accustomed to and governed by democratic principles, but might be absent in an unequal low- to middle-income country. This drive to actively participate might not exist in situations in which the actors feel excluded from decision making due to the structure of their society. This may also happen when the inhabitants are not used to — and might not even be able to — imagine that they could influence the development of their surroundings, as is often the case in low- to middle-income settings. Thus, to gain insights as to how to generate healthier and more inclusive cities, architects need to take the responsibility, prioritise the placement of people at the centre of the process (Smith, 2011), and seek to develop a common understanding grounded in the community’s perspective (Nix et al., 2019). This might sometimes be challenging. However, taking small steps at a time in the right direction and building our capabilities as facilitators may be a response to this demand.

Thus, practitioners need to develop their capabilities to lead an inclusive process and take responsibility for its outcome. As one example, the researchers Sofia Hussein, Elisabeth Sanders and Martin Steinert (2012) proposed that designers should take a strong lead in participatory design activities to ensure user engagement in complex and challenging settings. One can also observe this leading role in the participatory processes that the architecture practice, Elemental, conducted in its well-known and widely appreciated social housing projects in Chile (Aravena & Iacobelli, 2013). In this project the architects designed half of the houses and facilitated the inhabitants to further develop their houses. In any case, architects need to be aware of and carefully consider the roles of users/inhabitants and design-
and inhabitants/users, there is a risk of involuntary designer. Due to the acknowledged gaps between architects/designers and users or architects and inhabitants, and also on how the connection process of building trust depends on the relationship between designers and trust-building among the actors involved before a proper participatory process. In Hussain’s case, the responsibility to ensure the influence of participatory exercises in a project in Cambodia related to children with mobility challenges. As they noticed, vulnerable users might not have the trust or strength needed to stand up for their rights or reveal their dreams. Thus, a lack of motivation and trust in authorities might disturb the participatory process. In Hussain’s case, the responsibility to ensure the influence of the users in the process rested with the designer (Hussain et al., 2012). In these kinds of situations, there might be a need for long-term capacity and trust-building among the actors involved before a proper participatory process can take place (Hussain et al., 2012; Drain & Sanders, 2019). This process of building trust depends on the relationship between designers and users or architects and inhabitants, and also on how the connection between the various actors evolves throughout the design process.

In addition, there might be barriers that lie on the side of the architect/designer. Due to the acknowledged gaps between architects/designers and inhabitants/users, there is a risk of involuntary othereing (when these actors distance themselves from each other). Keshavarz (2020) warns about seeing oneself as a saviour, thereby transforming the other to a victim, somebody to be saved. In such cases there is the imminent risk of the relationship becoming extractive, depriving the users/inhabitants of their agential power. This can particularly be a risk in cases where the users are in a vulnerable position.

In sum, when working with projects in low- to middle-income settings, architects can experience several challenges, including inadequate self-knowledge, unawareness of personal biases, insufficient professional resources or limited inhabitant engagement. Moreover, from the inhabitants’ perspective, challenges such as the lack of empowerment, trust, time, energy and experience with participatory design might emerge. In these contexts, architects and designers need to be thoroughly prepared to deal with such challenges (Ambole et al., 2016). Additionally, entanglements, obstacles, or gaps between stakeholders often appear in design projects (Hussain, Sanders, and Steinert, 2012) and dissensus is usually unavoidable (Keshavarz & Mazé, 2013). Thus, approaches that direct attention to bridging these gaps are necessary. This means, not ignoring the challenges, but, on the contrary, to embrace the differences, to allow differing opinions and controversies to exist, and to create a platform for these to be addressed amongst the stakeholders, in other words, to create agonistic public spaces (Björgvinsson, Ehn, & Hillgren, 2012).

There is an existing critique of seeking a universal model that fits all and would thus support globalisation (Escobar, 2015). This also includes the discipline of design, when applying design methods developed in the West in different cultural contexts, because these methods might hide colonial legacies in their structure (Akama, Hagen & Whaanga-Schollum). These methods often pursue efficiency and replicability, whereas issues like cultural identity, personal values and geographical contexts are easily neglected. For architects who work at a distance from the community for whom they are designing, it is particularly important that they act sensitively to local culturally specific customs, are aware of their own preconceptions (Akama, Hagen, & Whaanga-Schollum, 2019) and acknowledge both the local heritage as well as the colonial legacy (le Roux, 2020). In this regard, one valuable approach is to cooperate closely with local professionals and other stakeholders, so as not to reinforce and recreate these legacies (le Roux, 2014; Lokko, 2014). However, deeply rooted participatory design is simply not always possible in low- to middle-income contexts and thus architects and designers need other means with which to narrow the social distance between them and the impacted people that may reside in intersectionally marginalised positions. Having encountered such situations repeatedly in my practice and research, this thesis moved towards elaborating the potential that lies in utilising empathic design in such situations and settings.

In conclusion, particularly when designing with users in vulnerable situations, as in my field of work, there is often a distant relation between actors that needs to be reduced in order to engage users horizontally. Co-design has, in recent decades, sought to bring designers and architects closer to users and inhabitants. Nevertheless, the residual distance remains significant, and this field still needs attention (Fig. 7). This understanding drove me to investigate the relationship between actors in the design process through the notion of empathy. Empathy, the way the concept is understood in Western culture and the way I perceive the word, embodies...
an emotional layer in understanding and can thus support the architect/designer in reducing the distance to the inhabitants/users.

In both architecture and design discourses regarding the relationship between architect/designer and inhabitant/user, the notion of empathy is present, but it is, however, defined and used in a variety of ways. Therefore, the researchers and professionals in these fields would benefit from a better comprehension of empathy and the complexity of the concept. Despite the considerable amount of research on the concept in general and of empathy in the design realm, the notion remains unclear and lacks practical applicability on multiple levels in the design process. In this regard, I became interested in the co-design process and the attitude of the architect and designer and found it valuable to use the lens of empathy to study at which points design and architecture merge in context, process and discourse. Additionally, as mentioned above, evoking empathy per se brings people closer to each other and, hence, potentially prepares space for meaningful encounters.

1.4 INVESTIGATING EMPATHY AS THE GUIDING FORCE IN DESIGN

In general, the notion of empathy refers to our relationship with other human beings. As architects often do not design exclusively for themselves and their designs can affect large numbers of people, empathy ought to be a core competence in the profession. In this research, I refer to empathy as experiencing and appraising the world from another’s point of view, which in a design and architectural context is associated with a desire to improve the experience of the other. Experiencing the world involves practical, habitual, cultural and emotional components.

An empathic and sensitive approach has been a central theme in design particularly when discussing the relationship between designers and vulnerable users. Design researchers have addressed the theme through case studies, of which some examples include designing for disabled children in Cambodia (Hussain & Sanders, 2012; Hussain, et al., 2012), mourners (Smeenk, Tomico, & van Turnhout, 2016), and patients with dementia (Smeenk, Sturm, & Eggen, 2018). In a design process, when designers thoughtfully guide engagement with sensitivity, it enhances the relationships between stakeholders while building trust and a shared understanding (e.g., Akama & Yee, 2016; Mattelmäki, Vaajakallio, & Koskinen, 2014). These qualities need to be developed to the extent that designers and architects also are able to recognise silence and non-action as significant participation (Wiberg, 2018). In addition, not everybody might have the possibility to participate, such as the most marginalised or the ones with caretaking responsibilities.

Within product and service design discourses the importance of empathy has evolved over recent decades, in particular within the approach of empathic design (Koskinen et al., 2003; Leonard 1995). Positioning empathic design within the broader landscape of design approaches, the design researcher Marc Steen (2008) used human-centred design, a term that originated in usability engineering (Norman & Draper, 1986), as an umbrella under which he mapped six different types of user engaged design: empathic design, applied ethnography, co-design, participatory design, lead-user approach and contextual design. Furthermore, he analysed the design orientation of each of these approaches (either “What is?” or “What could be?”) and their direction (either users moving toward designers or designers toward users). He stated that in participatory design the users are active and approach the designer, whereas in empathic design the designers are the ones who approach the users. His model also highlights the difference between empathic design and design ethnography, ethnography taking the research orientation of “What is?” while empathic design has the orientation of “What could be?”.
For architectural projects in complex low- to middle-income settings with constraints, there is a need for more than simple observation, that is to say, a need for the architect to actively and thoroughly understand the living conditions of people in different cultural and social contexts. The actively empathic architect approaching the users with the question “What could be?”, as is done in empathic design, would seem relevant in these contexts. If architects adopted this approach, they would have the intention, willingness and responsibility to include the inhabitants in the design process with the curiosity and openness to see where this collaboration might lead. In being responsible for this active movement, the designer/architect should become emotionally involved in the process, whereas in contrast to traditional participatory design the future users/inhabitants do not necessarily need to be involved in the design process to such an extent when it is conducted according to empathic principles.

There is an ongoing discussion on the role of empathy in the design process. Kouprie and Sleeswijk Visser (2009) presented a framework for an empathic approach in which the design process is composed of discovery, immersion, connection and detachment. This framework proposes that empathy is part of every sequence in the design timeline. In addition, Smeenk and her colleagues (2016) emphasised the different perspectives that designers can adopt during the design process, that is, they can design from a third-, second- or first-person perspective. They argued that active designers can choose whether they maintain distance from users, observing them from a third-person perspective; they can collaborate with users in a dialogue from a second-person perspective; or they can immerse themselves in the design process at the same level as users from a first-person perspective. These two holistic views of the process indicate the complexity of the design work and invite a deeper investigation of the potentiality of each stage and what role empathy plays in this regard.

In my research, I followed a possible assumption from the two previous views, namely, that architects’ adoption of empathic design skills and methods would support the profession in becoming a bridge practice that could connect different actors in the society as part of the design process (Mehotra, 2020). This could assist our profession to meet the challenges of rapidly growing low- to middle-income societies. In conclusion, my aim with this thesis is to help in surmounting the distance between actors through the enhancement of empathy and understanding between people.

1.5 OBJECTIVES AND SCOPE

Multiple perspectives motivated this research, as I have described in this chapter. Firstly, from a societal point of view, the extreme need for sustainable and humane architecture in the fast-growing cities of the Global South calls for an active and qualitative socio-cultural engagement of professionals. Secondly, from a professional point of view, there is a growing interest among architects to engage in societal issues and act sustainably. However, there is little literature that explains how this engagement could happen. Additionally, there is little empirical knowledge of how the distance between actors can be overcome and what is required of architects if they are to enhance proximity and reach horizontality in the design process. This indicates that there is an urgent need for both professional and personal development among architects. Thirdly, from a research point of view, there should be an intensifying of the discourse within the field of design and architecture on the relationship between designers/architects and users/inhabitants as well as on empathy, particularly in the context of practice in vulnerable communities.

Like other researchers within this emerging field of an empathic approach to design (e.g., Yoko Akama, Tuuli Mattelmäki, and Wina Smeenk), my motivation was to comprehend the underlying challenges and opportunities in the co-design process, and to see how one could achieve proximity between actors and horizontality in the design process. To gain an understanding of these issues, I employed various collaborative design methods in practice and reflected on their respective relevancy in the design process for sustainable architecture in low- to middle-income parts of the world. Furthermore, I sought to clarify the notion of empathy in the fields of architecture and design from both theoretical and empirical perspectives. One purpose of this thesis was to extend the discourse within the design discipline by deepening the understanding of empathic behaviour in the design process and by enriching it with my experience in architectural projects in low- to middle-income settings. The overall objective was to contribute to socio-cultural sustainability and encourage user engagement in architecture and design, both theoretically and methodologically. Ultimately, I intended to reveal the potential of empathy for enriching the design process and supporting the endeavour of reinforcing the connection between users and designers in both theory and practice. It would bridge the gaps between architects, designers, inhabitants, users and other stakeholders. As such, an empathic design approach could be valuable for any designer working in low- to middle-income countries and particularly for architects highly engaged with socio-cultural and local aspects.
1.5.1 RESEARCH QUESTIONS

With my three research questions, I seek to illustrate the line of thought that connects my papers to the entity that this thesis forms. The questions emerged at different phases of the work on the thesis. Thus, the first question established the foundation for the validity of the research, the second grounded the theoretical background, while the third referred to practical contributions.

RQ 1
To what extent is inhabitant engagement beneficial in architecture projects in low- to middle-income settings when the main aim is sustainability?

This question is discussed on a general level in Paper I and explored more structurally in Paper II. In this introduction, the discussions and responses to the question are distributed over Chapters 1, 4, 5 and 6.

RQ 2
How is the notion of empathy understood, interpreted and used in design and architecture?

This question is discussed through a practical exploration of different design methods in Papers III and IV. However, it is reviewed specifically and on a deeper level in Paper V. In this introduction, I respond to this question in Chapter 4.

RQ 3
How can designers and architects apply empathy in practice to contribute to a decreased social distance between actors and horizontality in design?

This question is the most significant of the three as it led me to the main part and destination of my research journey and related to my practice-led research through design. Through it, I empirically tested different collaborative design methods and reflected on empathy in the design process as discussed in Papers III, IV and V. I respond to this question in Section 4.5 and Chapter 5 of this introduction.
Figure 8. Dar es Salaam, 2013.
2 CONTEXT AND RESEARCH APPROACH

In this section, I present the contexts of my research, the methodologies and methods applied, and the available data. By context, I mean the starting points and surroundings, the academic environment and literature, the geographical settings and the people inhabiting them as well as the practice within the design projects.

My epistemological standpoints were in several different contexts. From the practice point of view, I have had 25 years of experience in architecture in low- to middle-income countries. This long-term experience of learning by doing — reflection in action, or reflecting on practice (Schön, 1983) — has taught me much about designing collaboratively in complex settings. However, I had not yet written about my experiences. Therefore, for this thesis, choosing two different field contexts in Tanzania and India where I was actively involved, gave me the opportunity to conduct research on design processes with relevant similarities to my earlier work while they were evolving. I reflected upon my previous professional architectural practice in Paper I, whereas I discussed the design processes of the field projects in Tanzania and India in Papers III, IV and V. Additionally, from an academic point of view, I was part of a research group with a transdisciplinary focus on sustainability and co-creation in the Global South, which functioned as a starting point for my research. Beginning with the broad spectra of sustainability in low- to middle-income countries, I soon narrowed the focus down to socio-cultural sustainability, and further to architecture and design discourses related to user or inhabitant engagement. Nevertheless, all these contexts presented points of access, sources of material, and methods for the research process.

The visual art scholar Janis Jefferies (2012) points out that collaboration between disciplines, like thinking and making, happens over time, develops, and changes according to different contexts that offer an abundance of opportunities. Likewise, the various contexts that I present in this section were not only settings, projects or disciplines, but they also offered timely opportunities for my research to emerge. This led to possibilities that I could not predict or determine in advance (Jefferies, 2012). They offered me numerous alternatives, obstacles and changes along the way. Thus, I drew the map of my research territory as it evolved along the journey.

In my research, practice and theory are intertwined with a continuous interplay between the two. In this case, the research can be defined as practice-led (Gray, 1996), as opposed to practice-based, or relevant for practice. Thus, I formulated the research questions while in practice, and the design projects guided the direction of the research. Practice-led is one of many possible orientations for practice within research, along a spectrum between theory-led and practice-led. However, in the case of this thesis, the research findings are an analysis of the design processes, not the designs as such. To quote the architect Stan Allen (1999, p. 113), my research sought to let theory and practice merge to “accommodate the multiple and contradictory demands of the real”, while through “pragmatic realism”, it was possible to “embrace the complexity and unpredictability” of the settings where I worked.

2.1 ACADEMIC CONTEXT: NEW GLOBAL

I begin by introducing the academic context of my study with my participation in a research group that aims at transdisciplinary and systemic research. The disciplinary and methodological orientations as well as the colleagues and collaborators formed one of the solid grounds for learning and influence out of which this research emerged.

This thesis was developed within “New Global”, which is the name of both a research group and a project at Aalto University, in Espoo, Finland, that ran from 2014 to 2020. The inspiration for this research project arose when I was teaching an interdisciplinary master’s-level studio course in Tanzania together with Sara Lindeman, who holds a PhD in inclusive business. On that course, students from different departments of Aalto University collaborated with the inhabitants of the informal neighbourhoods of Dar es Salaam (Lindeman & Sandman, 2018) (Fig. 8). Encouraged by the innovative solutions that students and inhabitants came up with, we sought funding for a research project. Consequently, we gained a grant for a five-year interdisciplinary research project. This grant also funded the main part of my research.

The New Global project tackled global sustainability-related problems inclusively through a systemic and agile approach. In other words, it sought to acknowledge the whole, while in a flexible manner acting with its parts. In practice, this meant approaching the challenge from several disciplinary angles, including multiple stakeholders, while prototyping a portfolio of possible alternative pathways towards sustainable solutions. In the New Global project, we argued that this kind of approach was required due to the complexity of the problems and the collaboration with multiple actors from various cultures. As the project applied research in society, it engaged Finnish companies and academia with communities, companies, governmental institutions and academia from the Global South. The involvement of all these stakeholders striving for co-creation led to
a dominantly qualitative research approach. Hence, we were interested in understanding culture and people on a personal level, identifying their needs and aspirations through qualitative encounters. Essentially, we regarded the qualitative approach as a prerequisite to understanding the parts thoroughly, and only through that to form a picture of the whole and propose actions accordingly.

The systems approach to comprehend what was underlying the phenomena rather than looking at the different parts in isolation was supported by the heterogeneous backgrounds of the members of the group. My background was in architecture, although I was doing my research studies in the department of design, while others came from engineering, business, sustainability sciences and human rights. Regardless of the different backgrounds, we aimed at a fluent co-creation process. The process developed throughout the years, starting as a multidisciplinary collaboration in which people from different disciplines collaborated by sharing their knowledge. When the research project evolved and we learned more about each other, we moved toward interdisciplinarity and the researchers started to integrate both knowledge and methods from the other disciplines, synthesising their approaches. Toward the end of the project, it achieved the aim of the collaboration and became arguably transdisciplinary, in which knowledge from different disciplines merged, transcending their traditional boundaries, and new frameworks emerged beyond disciplinary perspectives (e.g. Jantsch, 1972; Piaget, 1972). It is a privilege to work in this kind of transdisciplinary context, as acknowledged by Doucet and Janssens (2011), who emphasise its relevancy to architecture, because it already deals with a combination of arts and science, creative authorship, and service to clients and society. They defined transdisciplinary knowledge production as “a fusion of academic and non-academic knowledge, theory and practice, discipline and profession” (Doucet & Janssens, 2011, p. 7).

This form of research influenced the choices of the group and constituted the topic of my thesis. Being part of the New Global research group allowed me to reflect on my work from a broader perspective. This also resulted in the eclecticism of my thesis. Due to the complexity of the research challenge, it was both inevitable and beneficial for me to ground the research in several fields despite my own position in the department of design. Particularly in the beginning, the spectrum of my research was wide, until I defined my territory more precisely and continued by deepening my understanding of co-design and empathy as reflected in the last papers of the thesis.

The choice of diving deep into the concept of empathy was supported by the design department at Aalto University, where the approach of empathic design has been studied, utilised and deepened in recent decades. I was influenced by the writings of Tuuli Mattelmäki, Harri Koskinen, Katja Battarbee and others, and saw the advantage of bringing their views to the architectural field. Conversely, I had an interest in comparing them with the view of empathy in architecture, in particular the writings of my former professor, Juhani Pallasmaa. Additionally, the word empathy has been frequently used, although rarely clearly defined, in both design and architecture in the last few decades. Empathic design has also been the subject of critique. Thus, the concept was worthy of investigation in the context of low- to middle-income countries, in order to be meaningful from a scholarly perspective. Furthermore, I wanted to improve my own capacity to co-design in my work in these settings. The attitude of empathic design seemed right for this endeavour.

The multi-situatedness of my research did not include only the New Global but also Hollmén Reuter Sandman Architects, the NGO Ukumbi, the social impact company M4ID (renamed Scope) that executed the maternity ward project, and the Department of Urban and Rural Planning of Zanzibar, my partner in the affordable housing project. Hence, several additional non-academic contexts influenced the outcome over time. In addition, there were communities and inhabitants involved in each particular situation. Thus, the balance between my aesthetic and professional knowledge as an architect, the knowledge and wishes of the other stakeholders, and the aspirations of the inhabitants — the relationships between the different actors — all became relevant. In particular, the designer-user/architect-inhabitant relationship attracted my attention because I had noticed in my previous work that it could easily remain superficial.

Moreover, the research process included periods of literature review through which I also gained knowledge over time. In this introduction, the literature referred to in Chapter 1, “Motivation”, represents mainly the broader perspective of this research, including socio-cultural sustainability, the role of the architect, and inhabitant participation in design in low- to middle-income settings. I familiarised myself with this first set of literature while starting the collaboration with the New Global group. However, as the topic for my thesis became more focused, and after the writing of Paper II, I incorporated a new set of literature on user engagement in architecture and design, including participatory, human-centred, empathic design, and design probing (Papers III and IV). While writing the last paper, I reviewed more literature on the concept of empathy (Paper V). This latter part of the literature is presented in Chapter 5, “Designing with empathy”, which represents the foreground theory from architecture, design and philosophy discourses that formed the final focus of my research. In Chapter 6, “Bringing Theory to Life”, there is an
interplay between the findings from literature and the empirical findings of the design processes.

What started as several different territories, appearing impossible to join, evolved over time and the different parts came closer to each other. Towards the end, a landscape took shape. This explains perhaps the drifting nature of this thesis — moving from one focal point to the next — its development over time, and the complex variety of material and methods of my thesis (Gall Krogh, Markussen, & Bang, 2015).

2.1.1 Positionality

I acknowledge that my positionality has affected this research. Firstly, the design work that I conducted and examined in this thesis was carried out in regions geographically and culturally far from my own origins. Thus, I might have made mistakes or misinterpretations on some socio-cultural aspects. Secondly, the people I collaborated with were on many levels less privileged than me. I belong to the income group 4 (high income level), whereas most of them probably belong to the groups 1, 2 or 3 (low income, lower middle-income, or upper middle-income groups) (Rosling et al., 2018; World Bank, 2020). Additionally, they did not get paid while collaborating with me, and had not had the same privilege of free education from elementary school to university as I have had, and regarding the relevant topics — housing and child delivery — they lacked the freedom of choice that I have had.4

All the people who collaborated with us in the project did it voluntarily. They were well informed of the intention of the projects, also of the possibility that the design projects would not be executed, and even if the projects did proceed, they might not benefit from the outcome because they might not deliver a child again or they might move away from the neighbourhood before the buildings were completed. All the people who appear in the images (except for pictures taken on the street: 1, 3, 8, 11, 13, 14, 15, 25 and 28) have agreed to be photographed and given us verbal or written consent to use the pictures for research purposes. I have blurred the faces of the ones who have not given me their consent. All the photographs in this thesis were taken by me, unless mentioned separately in the captions.

The qualitative approach in this thesis was interpretative and took advantage of embodied and situated knowledge, although acknowledging limitations. For instance, there was a social distance between me and the community I collaborated with on many levels: geographic, cultural, social and lingual. In the context of the maternity-ward design project, it is relevant to share that I am a mother who gave birth in an exemplary high-resource (in terms of personnel, time, equipment and space) public maternity ward in Finland. All these facts created a multi-level distance between me, as the architect, and the communities I was collaborating with during my research process.

I am a former student of the professor emeritus, architect and scholar, Juhani Pallasmaa, who has written about empathy in architecture and to whom I will refer in the following parts. Consequently, in line with his teaching, I grew up as an architect who valued my own capacity to imagine myself as a user. For my whole professional life, I have been working in cultures that are different from my own, finding myself in professional situations in which there has been a considerable distance between me and the other actors. It is due to these experiences that I have learned that it is not always enough to imagine the other’s conditions, but that there is also a need to listen, to understand, to provide a voice to everyone involved, and to become immersed in the situations with as few preconceptions as possible.

I have asked myself the following questions about my position during this research and in my professional life: I might not be justified to act in the places where I work; there is a risk that I leave nothing advantageous for the people who stay behind when I leave; I might not understand the people with whom I collaborate to the extent that I can produce something of significance to them; my relationship to the people I collaborate with can be extractive, because what I give them in return might not be of equal value, or it might be other people in the end who use the architecture, as processes are sometimes very slow. I do not have answers to these questions. However, I do know that, due to my origins, I have a predominantly Western view as my starting point, and preconceptions might slip through unnoticed. Additionally, due to the unavoidable gaps, the co- and the mutual will never reach a hundred per cent. Nevertheless, I continuously aspire to work in a way that improves my capabilities to understand and empathise, and this thesis is a part of that lifelong project.

4 The main part of my research was funded through the governmental Finnish Funding Agency for Innovation (renamed Business Finland) through an instrument of strategic openings for innovative research that financed the New Global project, my research being part of that. Additionally, I received funding from the Finnish Cultural Foundation to finalise my thesis. Thus, the starting point for my research originated within the framework of the proposal for strategic research, i.e., sustainability and co-creation in the Global South. However, the results were not directed by Business Finland. Furthermore, I received funding from the Finnish Cultural Foundation based on my research plan at the moment of applying. Thus, the foundation did not interfere with the results of the research.

Helena Sandman — Empathy Matters — Architecture for the world’s majority
2.2 FIELD CONTEXTS: ZANZIBAR AND ODISHA

Not only the academic context became important for this research journey, but perhaps even more important were the fields. Particularly the people in the fields played a significant role in the development of this thesis.

In my research I adopted the field approach, which originates in the social sciences, and includes design projects in contexts formed by ordinary people living ordinary lives. According to the design researchers Ilpo Koskinen, Thomas Binder and Johan Redström (2008), the field approach has different qualities from the lab and the gallery that they also identified within design research. They further define the field approach as a “sequential unfolding of events” in which “research is integrated seamlessly into design” (Koskinen, Binder, & Redström, 2008, p. 51). Nevertheless, the way the field is conceived of in their proposal differs from its role in my research because I was not exploring a designed object in use but actually designing with the people in the field. Nevertheless, it is relevant to use the concept of field for the contexts of this thesis in which I practiced with collaborators in particular settings.

In this thesis, several geographical fields contributed to the overall landscape of the research. It was especially important that I identified, for my design process of affordable housing, the community to collaborate with in Zanzibar, Tanzania, and I also recognised the potential for theory building in the process of designing maternity wards for low-resource settings in Odisha, India, and in Zanzibar, Tanzania. Furthermore, the different fields in Africa and Asia, where I have practised for a long time, exist in the background, and additionally, three different fields in Tanzania, Namibia and Chile, are also used as comparable examples in Paper II.

The two fields in particular focus, Tanzania and India, played a significant role in my research. They were dissimilar and had different stakeholders and people who all influenced both the design and the research processes. When I began my doctoral research, I was looking for an architectural design project that would fit the scope of the New Global research project. At that point, I intended to do research related to housing. Consequently, in 2014, while I was teaching on the Aalto University master’s course, “Cities in Transition”, in Dar es Salaam, Tanzania, I was introduced to Zanzibar by Dr. Muhammad Juma, an architect and Director of the Department of Urban and Rural Planning of Zanzibar (DoURP). When I learned about the sustainability aspirations of the department, the urban challenges of Zanzibar Town particularly regarding affordable housing, and the concerns regarding insufficient numbers of profession-
Figure 9. Map of Tanzania and Zanzibar.
Figure 10. Map of India and Odisha.
2.2.1 AFFORDABLE HOUSING IN NG’AMBO

Concerning the research landscape that had started to take form for me, the settings of Ng’amo, Zanzibar, offered the potential to design sustainable and affordable housing in collaboration with the current inhabitants of the area (Fig. 11). This would provide me with the opportunity to study the design process while it emerged. Additionally, the Department of Urban and Rural Planning (DoURP) was willing to introduce me to the community and allow me access to previous research, urban planning, and design work that had been conducted in the area.

Zanzibar Town, the capital of Zanzibar, even if moderate in size, faces the same challenges as large urban centres in the Global South. Unrestrained urban sprawl is encroaching on valuable agricultural land, which is a threat to the densely populated island (Juma, 2014). To prevent informal sprawl, the DoURP identified the need to accommodate more inhabitants in the central parts of the city and to plan for sustainable new areas as urbanisation is accelerating.

The old centre of Zanzibar Town, Stone Town — a UNESCO World Heritage Site — was originally built on a small island separated by a lagoon from the rest of Unguja Island (Fig. 12 and 13). The shore of the lagoon, opposite the city centre, was named Ng’amo (“The other side” in Swahili). Ng’amo was constructed during the 19th century, when Stone Town became overcrowded (Folkers, 2010). The lagoon has been filled and Ng’amo currently forms the buffer zone between the cultural heritage site of Stone Town and the rest of the city. It is a predominantly low-rise neighbourhood except for the apartment blocks forming a cross over the whole neighbourhood when looking at a map (Fig. 14). However, in the recently finalised Master Plan of Zanzibar, Ng’amo was defined as the new city centre, meaning that the density is quite likely to grow at a fast pace. Today, Ng’amo has approximately 50,000 inhabitants and roughly 5,000 houses, many of which were constructed at the beginning of the 20th century (Juma et al., 2014).

The DoURP was concerned about the risk of losing both tangible and intangible cultural heritage if uncontrolled development forced the present inhabitants to move to the outskirts of the town. The Ng’amo area is particularly at risk if the real-estate market alone guides the development (Juma, 2014). This future trend is already distinguishable in the neighbourhood: some plot owners have replaced the original houses with apartment buildings that are constructed without considering the surrounding con-

Figure 11. Ng’amo, Zanzibar, Tanzania, 2016.

Figure 12. Inner courtyard in Stone Town, Zanzibar, 2015.
structions, the commonly used pattern of public spaces intertwined with the buildings, or the community structure. There is a risk of development of this kind continuing if the area remains unplanned without building regulations. Additionally, real-estate prices in the neighbourhood will probably rise due to the central position of the place, and developers might have an interest in purchasing the land. In this case, the original population will probably migrate toward the town’s peripheries as they might not be able to afford apartments based on the expected market price. In addition to the cultural loss, a potential migration would lead to further urban sprawl. For this reason, the DoURP would prefer the original inhabitants to remain on-site and be involved in the development of the area.

After having familiarised myself with the situation, I decided that I would take on, as part of my research process, a participatory and sustainable affordable housing design project for Ng’amo that would have a higher density than the present one. The objectives of the design project were threefold. From the perspective of the inhabitants, they would have the opportunity to participate in the development of their neighbourhood, reflect on how they would like their future to look, be informed of future threats (for some people, opportunities), and establish contacts with the DoURP. From the perspective of the DoURP, the design process would advance their plans and test the possibilities of developing dense housing in collaboration with inhabitants in the area. Finally, from my perspective, the design process would help me to explore the potential of different collaborative design methods in the context of architectural design in low-to middle-income countries. In the process, the DoURP would function as a bridge of introduction between the inhabitants and myself, because they had already done work together with the community. For my part, I would function as a bridge between the inhabitants and the DoURP with regards to the participatory exercises. This co-design practice would strengthen the relationship between the governmental institution of the DoURP and the inhabitants of Ng’amo, thereby giving the Ng’amo community the possibility to play a central role in the development of their neighbourhood. Thus, the project seemed like a potential platform for mutual learning from which all parties could benefit. Mutual learning implies exchange and interaction across asymmetric positions whilst the parties engaged in the project gain increased understanding of each other’s knowledge base and position. Everybody could benefit in one way or another even if they did not learn the same things because there would not be one central mastery to be learned, like there is, for instance, in apprenticesing models (Lave & Wenger, 1991).

The DoURP suggested a block of 13 houses and approximately 100 inhabitants as the site and field for inhabitant engagement for the design project.
Many of the inhabitants had lived in Ng’ambo for generations and some of them had lost their houses due to the construction since the 1970s of the Michenzani apartment blocks: 12 seven-storey, 300-metre-long buildings in the core of their neighbourhood (Folkers, 2014) (Fig. 14). This major change in Ng’ambo was still fresh in the inhabitants’ memories. Thus, they were aware of the risk of eviction they might face, which made the task of establishing trust between all involved stakeholders a challenge (Fig. 15).

During the two years of the design process, I had the opportunity to be in the field for three consecutive months at the beginning and to return for two shorter visits of a few weeks during the design period. During my visits, the DoURP facilitated the introductions to the community and allowed me to use their premises for workshops. They also shared with me the outputs of research conducted in the area during the last decade by the non-governmental organisation African Architecture Matters, several international researchers, and students. However, due to the lack of professionals and, thus, the employees’ pressed time schedules, I did not collaborate much with the professionals at DoURP during the design process. After all, their field of work was urban planning, not housing design.

However, being affiliated with the DoURP was not entirely beneficial. As the department is a governmental institution it is managed by a person chosen by the ruling political party. Consequently, some of the participants were suspicious because not all of them were followers of this political inclination. This was shown in their reluctance to participate in the different activities and their scepticism toward the project altogether. This strong political division led to the situation that one of the 13 houses chosen to be part of the site rejected the proposal and refused further collaboration. The family who resigned from the participation were shop owners who wanted to expand their house themselves, rather than with their neighbours. I could easily understand their reasons. However, even though this was a setback in the design process it gave this family the opportunity to address their concerns to the DoURP and it informed the DoURP of the political landscape in the neighbourhood.

Another constraint that I faced during the collaborative work was, even if predicted, the need for translation. Even though the contact between myself and the participants relied on non-verbal communication, the lack
of a common language affected the connection. In any case, I recorded all conversations and had them transcribed. Thus, I could include the misinterpretations, if they occurred, in my analyses of the collaborative work. Additionally, the availability of the participants was sometimes a problem, even if this had also been foreseen, and my activities had been planned so as not to require much time engagement from their side.

In this thesis (Papers III and IV), I discuss the different design methods that I applied to engage users in the early stages of the design process: applied ethnography, design probing, workshops and theme discussions. I handed over the final design proposal (presented in Paper IV) to the DoURP in 2017 for their utilisation. However, the project has not yet been constructed. Originally, the DoURP and I hoped that, with our joined forces, we would have been able to find an investor willing to construct the housing block. This would have allowed me to follow up on the research throughout the whole design project, and not only in its early design phase. Nonetheless, this did not happen within the timeframe of this thesis.

2.2.2 MATERNITY WARDS IN KIVUNGE AND BASTA

While working on my doctoral research, I became involved in a maternity ward design project for low-resource settings. Originally, this project was a separate job. However, the design process appeared to be significant for my research as it afforded me the possibility to investigate further the topic of co-design and particularly to delve into the notion of empathy in the design process (Fig. 16).

This design project was carried out by the Helsinki-based social impact company Marketing for International Development (M4ID, renamed Scope) and funded by the Bill & Melinda Gates Foundation. The main objective of the design project was to prevent maternal and child deaths through comprehensive design, enabling smoother and safer maternal and new-born birth experiences with a focus on the quality of care.

M4ID gathered background information for the project from several related service design projects they had previously conducted in Tanzania, Uganda, Kenya, Nigeria and India. The project applied these materials along with the World Health Organisation (WHO) guidelines as the basis of the design. Additionally, M4ID employed an advisory board of medical experts from multiple countries, in both low and high-income settings.

M4ID formed three design teams: one on architecture, led by me; a second on services; and a third on products. We (i.e., the architecture team) conducted background research in December 2015 and January 2016 in Zanzibar. We gathered data through observations in five different hospitals on the island and semi-structured interviews with women, healthcare providers and traditional birth attendants. Additionally, we organised two
and mothers-to-be do not have agency; the quality of care could be improved; and the level of hygiene is often low (Fig. 18). In both countries the healthcare system is built upon the colonial legacy and Western medical principles that have not acknowledged local traditions (Hunt, 1999). However, Odisha and Zanzibar are different cases, even if seen from a clinical point of view. Although the actual birthing process is the same, there are varying cultural traditions, divergent norms, as well as dissimilarly operating health-care systems. In both places, we tried to improve the existing situation based on the available terms. Our original intention with the design project was to design with empathy throughout the process. This experience motivated me to include the project in this thesis. I use some situations of the design process of this project to discuss empathic engagement in Paper V.

My choice of these projects helped me to frame the direction of the thesis. Moreover, these cases and settings functioned as the landscape where the intertwined design and reflection on the design process took place. Toward the end of the writing process, I was combining reflections on the design process with theoretical inquiry. It was particularly important to follow a design research approach that allowed for openness and flexibility in the increasingly complex systems it was dealing with (Koskinen et al., 2008) in the two cases and settings where I worked, due to the vulnerable situation of the participants.

2.3 RESEARCH THROUGH DESIGN

The design practice has proven to be suitable as an instrument for socio-cultural and spatial research (van de Weijer, Van Cleempoel, & Heynen, 2014). Design research is described as an inquiry in which design engagement has a substantial role in understanding, aspiring for and generating knowledge (Brandt, Redström, Agger Eriksen, & Binder, 2011). To put it simply and using the words of the design researchers Tuuli Mattelmäki and Ben Matthews (2009), it is “the exercise of traditional academic skills such as reading, critical reflection, and argumentation, in combination with doing design work”. However, when the already manifold and unpredictable process of design is incorporated into academic research, describing the methodological journey is to me like finding a path between the trees in a blurred photograph of a landscape. During the design processes developed within this study, due to the complex and constantly changing situation, it was necessary for me to be creatively flexible and use an assortment of means and methods while learning along the way. Comfortingly, Mattelmäki and Matthews (2009) proposed that design research should be seen as a family of heterogeneous methods in which multiple connections between design and research can be present. Fur-

Figure 17. We created a magnet board to study the alternative spatial arrangements for the ward that was exhibited and in use by the public in the Women Deliver conference, 2016.
thermore, the architects Marijn van de Weijer, Koenraad Van Cleempoel and Hilde Heynen (2014) agree with this when they describe design as a partial methodology, in which instruments of design are used in research.

In the case of this thesis, both the research and the design processes had multiple goals, in other words, design and research outcomes. Mattelmäki and Matthews (2009) emphasise the importance of understanding clearly when one is designing and when one is contributing to research. The part of my study with the focus on the design process incorporating collaborative design methods could be interpreted as research for design (Frayling, 1993) or reflection for design (Blythe & van Schaik, 2013), in which the research intention was to improve design strategies and enhance connections between actors in the design process. On the other hand, the side of the research related to theory building, in which I reflected on the notion of empathy, can be defined as research through design (Frayling, 1993) or reflection on design (Blythe & van Schaik, 2013). I did the design work with an empathic intention, but the analyses and theory building happened only after the design process, recognising empathic engagement based on the theoretical understanding gained from the literature. These distinctions are relevant as they enlighten the order of priorities and distinguish the research activity from the design activity. When researching for design or reflecting for design, the design result is prioritised — how can the research improve the design? On the other hand, when researching through design or reflecting on design, the research result is prioritised — how can design inform research?

Design research can be practice-led when the designer reflects on their design process through a research topic (Mäkelä & Nimkulrat, 2011). In a seminal workshop on practice-led research organised in 2006 by Professor Chris Rust, this approach was defined as research in which the professional creative practice functions as a “vehicle for an exploration that contributes to knowledge and understanding”. However, it is not research in itself (Mäkelä & Routarinne, 2006, p. 12). Throughout this journey, the practice motivated me to do research. To begin with, the continued practice guided the directions of the research journey; the practice constituted the field context in which I was able to experiment with different methods; and ultimately, I analysed my practice in order to attain the results of this research. The research process was not linear, but was moving between theory and practice, learning and adapting after each turn (Mäkelä & Nimkulrat, 2011).

In the last three papers (3, 4, and 5), the design practice provided contexts for the research and communities with which to collaborate. In the process, I used different methods in the two cases that resulted in heterogeneous research material. Besides this, the contexts provided me with access to reality in my research. In the affordable housing case, it was intriguing for me to have the opportunity to engage in a design process with inhabitants who in reality were in a situation of potential eviction. Therefore, there was a real need for a housing solution that both the inhabitants and the government could agree on. Otherwise, the former would most probably have to move from the area sooner or later. This unique possibility to deal with a real need for the design motivated both the design process and the research process. On the other hand, in the case of the maternity ward, the design process was not conceived of to try out particular methods or designs, but to innovate new possibilities for improvement of the delivery process in low-resource settings. Nevertheless, the possibility to investigate and analyse empathy as it had occurred in reality made the research tangible.

Because the projects I was involved with were complex and unpredictable, the loops in the evolving inquiry varied in time and length. Nevertheless, it is possible to detect a structure. Concerning the affordable housing project, I executed the design using established methods of design research, which I had discovered through reviewing the literature. The actual utilisation of a given method guided me to the choice of the next one. However, in the maternity ward, the reflection happened mainly retrospectively because the design project was originally not part of my research.

In these research processes, the design played an active role. In both the housing and the maternity ward cases, the results of the engaging exercises informed the design, whereas the means of design generated material for the research (Mottram & Rust, 2008). This form of research would be defined as action research through design, according to the art scholar Christopher Frayling (1993) in his early writings on research through design. The action research can in this case be comparable to practice-led research since Frayling (1993) defines action research as reflecting on and documenting practical experiments. More precisely, in my case, it should be called participatory practice-led research through design because I involved participants in my design process.

The documentation of such a process, that is, the research material gathered in the end, is not heterogenic or structural. It is complex, rich, and even messy sometimes. In my case, this kind of material represents the data for the last three papers. I had a diverse collection of data to study, consisting of field notes and journals from site visits, informal and formal interviews, workshop results, design probing responses, photographs, video clips and sketches. Additionally, in the maternity ward case, we had the results from a baseline study and an impact assessment conducted by an Indian research firm on our behalf (Table 2). To arrive at the conclusions I made, I organised all the material I had gathered and analysed the data. In the case of the housing project, this happened along the way of the design process, whereas in the maternity ward project I did the analyses retrospectively in comparison with existing theory. The physical outcome of the
designs are not my research results as opposed to my reflections, recollections and understanding of the design processes and the relationship between the architect (me) and the inhabitants.

Richard Blythe and Leon van Schaik (2013) discussed reflective methodology as being a natural part of an active design process. They identified three dynamic aspects of reflection: reflection on previous projects, reflection in amid the process on the next move, and reflection for future projects (Blythe & van Schaik, 2013, pp. 62–63). In addition, the practice-led design researchers Maarit Mäkelä and Nithikul Nimkulrat (2011) see reflecting in action and reflecting on action (Söhn, 1983) as tools when building design theory. Reflection is common in practice-led research, in which the actions are guided by the practice or design process in the first place, research in the second. The evolving of the research is not predictable but emerges over time according to the needs (Jefferys, 2012).

Regarding these aspects in my research, the first, second and fifth papers reflect on previous projects because the first paper discusses projects executed before my research, the second reflects on projects designed by other architects, while the fifth paper analyses the design process of a project that was not initially part of my research plan. On the other hand, the third paper particularly reflects in as the design process and the theory building happened simultaneously, whereas the fourth paper could be seen as reflecting on design in retrospect and reflecting for future projects as it acknowledges the potential of a particular method for architectural design in low- to middle-income countries. Accordingly, this thesis represents a journey from Paper I to Paper V, in which the design decisions paved the way for the research and, dialectically, the research affected the design process.

2.3.1 CRITICAL REFLECTIONS ON THE NATURE OF THIS RESEARCH

In philosophically established terms, my research belongs to the social constructivist paradigm of inquiry due to the acknowledgment of the foundation of cultural differences and the significant role I gave to the social interactions of the different players in the creation of knowledge (Audi, 1999). Referring to the paradigms of inquiry presented by Carol Gray and Julian Malins (2004) and Linda Groat and David Wang (2013), my approach can be explained as constructivist with a relativist ontology because I acknowledged multiple constructed realities and described personal experiences. Additionally, following their proposition, findings emerge from interactions between inquirer and inquired and knowledge is co-constructed with participants. Finally, my research developed simultaneously with the design projects and the methodology for inquiry and theory building evolved during the process of learning, repeating and reflecting throughout the project, as well as in retrospect. As theory building in this research emerged with time, intertwined with practice, the view of the research landscape often felt out of focus. Thus, it was sometimes difficult to know where the road was or which direction to choose at a crossroads. In the most chaotic moments, it was easy for me to become immersed in the design because that was familiar territory for me, and I might forget to follow up the research aspects. Nevertheless, this form of research was rich and allowed for the new to emerge in creative moments of producing together. The evolving process, not always directed by myself but by other circumstances, also taught me to trust my intuition and appreciate my flexibility.

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Table 1. Overview of the available data from the housing project 2015–2017.
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Table 2. Overview of the available data from the maternity ward projects 2015–2018.
Figure 18. Maternity wards in Odisha, India, are often crowded.
3 SUMMARY OF RESEARCH PAPERS

In Chapter 3, I explain the structure of the research and briefly present the five papers that, along with this introduction, form the doctoral thesis. The map of my research was drawn along the way, based on my decisions to choose one path in favour of another. However, these choices depended on circumstances related to the other actors and contexts. Regarding this type of process, the architect Peter Gall Krogh and design researchers Thomas Markussen and Anne Louise Bang (2015, p. 39) explained research through design as “process-loops where hypothesis, experiments, and insights concurrently affect one another and result in a drift of research focus and continued adjustment of experiments to stabilise the research endeavour.” They acknowledged drifting as a measure of quality as it ensures the capability of the researcher to learn from findings and adjust the research journey accordingly. Likewise, the nature of a compilation thesis — i.e., a thesis consisting of an introduction and published academic papers (Gustavii, 2012) — is to learn along the way. In my thesis, the papers are organised in the order that they were written, thus acknowledging the roadmap of my research journey. The papers do not follow the same format nor a similar structure of argumentation. There are many reasons for this: firstly, four out of the five papers were written with co-authors, who thus took part in shaping the discussion and argumentation; secondly, the papers relate to different field contexts, which shaped their content; and thirdly, they were published in four different journals or books, which meant that the review process influenced the argumentation. Moreover, the papers were written before this introduction, the purpose of which is to bind them together, connect the different territories, and paint the landscape of the research.

The first paper explains where I come from professionally, the landscape of my background. The paper was written on the basis of a keynote speech and later published in an architectural research journal. The text of this paper had evolved over a longer period, and the discussed projects, mostly in Africa, were designed within a timeframe of 20 years. Consequently, the results of the first paper represent the motivation for moving from practice to research; the paper explains where the basis of my motivation to engage on the journey lay. In the process of writing, I realised the need for a change in the role of the architect active in low- to middle-income countries. This was the starting point of my journey (Fig. 19).

In the second paper, published in a journal devoted to sustainability measurement tools and social housing in order to identify the gaps related to socio-cultural sustainability. The findings in this paper pointed at the importance of the socio-cultural aspect of sustainability that can be easily neglected, and how empathy can be a means to avoid this in the architectural design process. These findings led me to the core of my research, namely, the architect-inhabitant relationship and empathy (Fig. 19).

In the third paper, published in an architectural research journal following a presentation I made at a conference, I took the first steps in examining the gap mentioned above by engaging users in the design process of a project of my own. I studied various optional design methods for this engagement. This paper reflects on the design process of the affordable housing project in Zanzibar. The findings of the study indicated that several methods, borrowed from the design discipline, are useful when applied in architectural projects in low- to middle-income settings, and that the empathic design method of design probing, in particular, had many advantages when seeking greater proximity between architects and inhabitants (Fig. 19).

The focus of the fourth paper, a chapter in a book on resilience and the result of a conference presentation, was on design probing, examining it both theoretically and empirically. As this method had proven beneficial in the affordable housing project, I wanted to explore it more closely. The findings of the study showed the multiple possibilities of this method and also emphasised how empathy can lead to deeper relationships between architects and inhabitants (Fig. 19).

The last paper, published in a design journal, represents the destination of my research journey. In this paper, I studied the notion of empathy and how it is approached in design and architecture discourses. Furthermore, I retrospectively reflected on my empathic engagement in the design process of the maternity wards for low-resource settings. This paper resulted in a proposal of different registers of empathic engagement during the design process (Fig. 19).

In the following sections, I briefly summarise the five papers, focusing on the aspects that are relevant to this thesis in order to weave the red thread that links them together.
Figure 19. The diagram illustrates the territory and the timeline of my research journey. The different colour fields show the sequential and overlapping processes in time, region, research context and collaboration partners. The sharper figures show the theory building in the papers and their relationships to the fields.
3.1 Paper I: Equality Quality: Architectural Planning for Underprivileged Groups

A building can be an island of stability in a turbulent world. The need for stability influences its siting, structural demands, functionality and appearance. Also, the building process can enhance stability, empower and unite a community. Hollmén Reuter Sandman Architects and the NGO Ukumbi aspire to use architecture as a tool to improve the living conditions of underprivileged communities. We, Saija Hollmén, Jenni Reuter and I, began our architecture work in low- to middle-income countries almost 20 years ago. Since then, socially engaged architecture has moved from the professional margins towards the frontline. In the last decade, the architectural discourse has shown a growing interest in the possibility of a social and humanitarian re-engagement of the discipline. The issue had faded from general debate after the 1970s but now seems to be back on the scene. This implies the recognition of the impact that a successful building project in a low-resource setting can have. Such an impact can be twofold, consisting of on-site and off-site effects. On-site, the building can make a difference in social, technological, economic and cultural terms. Its impact also differs from one phase of the project to the next. When the design process involves the local community, it influences a small but important group that may include politicians, community leaders, planners, builders and inhabitants. The integrated process of planning, design, and participation is most probably new to the community in question. The architect’s ability to combine his or her expertise and experience with that of the local community becomes an important aspect of the project. Such an aspect can be successful even when the project is not ultimately constructed. In the end, the broadest but least tangible effects of the building are off-site because a successful building project constructed sustainably may eventually influence and dignify countless people (Fig. 20).

3.2 Paper II: Using Empathic Design as a Tool for Urban Sustainability in Low-Resource Settings

Architectural design plays a crucial role in sustainable city development. In fast-growing cities in low- to middle-income countries, it can be a challenge to achieve sustainable results. As a response, the objective of this paper was to better understand the interconnectedness between the different dimensions of sustainability and recognise the points in the design process that most urgently require a participatory input. In this paper, we propose the use of empathic design, a concept borrowed from the design field, as a means to support the work of architects and other stakeholders in these settings. To investigate the aspects in which this methodology could be...
helpful, we synthesised two existing sustainability models. We then applied them to three examples that represent the context of our research: all provided housing for less advantaged parts of the society and were situated in low- to middle-income areas. In addition, the design processes of these projects were carried out in very different ways; one initiated by the inhabitants themselves, one involving the inhabitants in a thorough participatory design process, and one not involving the inhabitants at all. Thus, the level and type of inhabitant engagement varied in the three projects and illustrated when an approach originating in empathy might be required. After analysing the examples, we propose a model which has an equal balance between the four dimensions of sustainability — environmental, economic, social and cultural — and highlighted the aspects that most need inhabitant engagement. Consequently, the findings illuminate that sustainability analyses cannot focus only on the outputs of design processes, but, instead, they must include indicators for the unfolding of the process itself. Similarly, it is important to estimate how well the architect and other actors have managed to create and maintain a connection with each other throughout the design process. To enhance the proximity between actors, we draw on principles of empathic design. This design approach emphasises the importance of an emotional connection between designers and inhabitants when aiming to understand the social and cultural aspects of a community. Moreover, we argue that to hold the balance between the diverse dimensions of sustainability, the architect needs an in-depth understanding of the living conditions of people for whom she or he is designing. This calls for a fine-tuned empathic approach when designing in low-resource settings (Fig. 21).

3.3 PAPER III: SHOULDN’T ALL ARCHITECTURE BE DESIGNED WITH EMPATHY? A CASE OF AFFORDABLE-HOUSING DESIGN IN ZANZIBAR

Rapid urbanisation and the resulting fast-growing informal areas increase the need for affordable housing. This urgent need requires new forms of input from architects active in the Global South. Based on previous research, I argue that to build sustainable communities the inhabitants must be heard and must participate in the process. To involve inhabitants, architects can employ contextually suitable and effective design methods. To this end, the design discipline offers a wide range of methods, tools and techniques for user engagement. This paper describes the application of four different methods: applied ethnography, co-design workshops, design probing and theme discussions in the early stages of an affordable housing design project in Zanzibar. The project illustrates how these approaches can be applied in the architectural design process, how they complement each other, what adaptations and changes I needed to make, and what benefits and limitations I detected. These findings suggest that the use of these methods can positively influence the architectural planning of housing and support the architects in better considering the socio-cultural aspects of sustainability. The findings also illustrate that architects can move toward an understanding of the locality and the inhabitants in more meaningful ways using methods that are time-efficient and flexible (Fig. 22).

3.4 PAPER IV: PROBING FOR RESILIENCE:
EXPLORING DESIGN WITH EMPATHY IN ZANZIBAR, TANZANIA

We argue in this paper that to keep pace with rapid urban changes and to build sustainable and resilient communities, we need to develop inclusive architectural design processes. When community members are effectively engaged in the development of their habitat, they are empowered and possibly inspired to embrace endeavours that promote the resilience of the community, which further improves the overall sustainability. With the help

Figure 22. The backyards are much utilised, as an extended living room, as a kitchen and for laundry, particularly by the women of the family, Ng’amo, 2016.
of two examples from our design processes, we discuss the advantages of using a collaboration method, borrowed from the design discipline, namely, design probing. This method invites inhabitants to have an active role in changing their living environment and helps architects to understand the community for whom they are designing. Thus, we hypothesise that an empathic design method like this can help to diminish the gaps between stakeholders and enhance empathy and understanding between people — architects and community members alike. Additionally, by directing the attention of the participants to aspects of their everyday life and environment through the probes, the design process encourages and empowers the participants to tackle these issues themselves. When the inhabitants find that their participation matters and can translate into changes for the better, their feeling of empowerment and ownership is enhanced and can encourage further actions to develop their community’s sustainability. The examples presented here illustrate the potential that design probing has as a technique to support a community’s ability to adapt to change and to keep developing without losing its core characteristics (Fig. 23).

3.5 Paper V: Unboxing Empathy: Reflecting on Architectural Design for Maternal Health

Co-design aims to bring designers and end-users together to improve the quality of design projects. To build upon this, we focused on this relation concerning the social distance between designer and user, and how it could be reduced to create depth in the design process. In this paper, we studied how to enhance the proximity between actors, particularly in settings where it might be lacking. Especially when designing in low- to middle-income settings, or when users are in a vulnerable situation, in other words, in the fields where we work, there are often factors that prevent proximity. Empathy can be a guiding philosophy to reduce distance and deepen the design process. We here refer to the concept of empathy in a broad sense as experiencing and appraising the world from another’s point of view and as a quality of social encounters. As designers and architects seldom design for themselves and their designs often affect several people, we assert that empathy ought to be one of their core professional competencies. Therefore, professionals in these fields would benefit from a better understanding of the multidimensional nature of empathy. By investigating various approaches to empathy in design and architecture, we could retrospectively understand the various aspects of the design process of the maternity-ward project in which we were involved (Fig. 24.). Engaging a theoretical clarification of empathy as a multidimensional concept made it possible to empirically explicate diverse difficulties that designers face when trying to employ empathy as a guiding philosophy in their work. As a result, we identified three registers of empathy on a varying proximity scale that can be integrated into the design process: firstly, empathy from a distance embodies the value of the architect’s/designer’s presence and capacity to employ personal experiences and an active motivation to imagining being the user; secondly, engaging empathy emphasises the users, with a pragmatic focus on their activities, emotions and aspirations using practical methods and tools; and thirdly, empathy in depth proposes that the designers and architects take a step closer to the users, seek out similarities and differences, and aim to reduce social distances between stakeholders. In conclusion, our work illustrated that these registers of empathy can complement each other or be used in different circumstances when one of them might be more appropriate than another. By presenting these registers, we sought to unbox the different views on empathy and draw attention to the potential of empathic engagement when aiming for depth in a project.

5 Elsewhere in this introductory chapter, I have replaced the word depth in this context due to its multiple meanings, with horizontality or rootedness.
Figure 24. Laundry from the maternity ward at Mnazi Mmoja Hospital, Zanzibar Town, Tanzania, 2015.
4 UNDERSTANDING DESIGNING WITH EMPATHY

The registers of empathy constitute the core of my research and, therefore, I focus on empathy here in Chapter 4 of the introduction as well as in the following, “Bringing theory to life”, Chapter 5, to better explain the context that led to my proposition of the different registers within the design process. I organised these sections that represent the foreground theory and the findings of my research according to the various approaches to empathy in design and architecture. I primarily expand on the theory and findings of Paper V that represents the final destination of my research journey. In the following, I will delve deeper into the concept of empathy, answering my research question 2: How is the notion of empathy understood, interpreted and used in design and architecture?

The concept of empathy in design is fragmented. For this reason, the purpose in this chapter is to understand empathy as part of the design process and to study how empathy can support the design process when working with vulnerable users in the pursuit of socio-cultural sustainability in low- to middle-income countries. I wanted to identify and articulate the differences within and across the design disciplines in order to clarify the scholarly approaches behind the various ways of empathising in architecture and design. The term empathy is widely used by architects and designers and continues to be popular and relevant across the fields. However, what is actually meant by empathy can vary to such an extent that is sometimes is confusing and misleading. Consequently, within the professions, the term should be better understood and articulated as regards the different assumptions, contexts and uses of its sources in order to construct a more robust basis for research and practice.

In the following sections, I will begin by briefly considering some of the definitions and different forms of empathy as discussed in philosophy and psychology. Subsequently, I present a couple of holistic views on empathy as part of the design process followed by selected discussions from the architecture and design discourses that show the different perceptions of what constitutes an empathic approach. I have organised the discussions about different design approaches according to the proximity of the empathiser and the empathised, which means, in this case, the social distance between the architect/designer and the inhabitant/user. For instance, in architecture discourse empathy is often discussed in the form of imagination when the architect is not collaborating with the actual inhabitants-to-be, whereas in design discourse the designers engage the users by employing empathic design methods. Thus, in design discourse, the contact between designers and users is considered important, whereas in architecture discourse this is not evident. I will elaborate on this in the following sections.

4.1 EMPATHY AS A CONCEPT

It is important to recognise the empathy discourse in the fields of philosophy and psychology in order to understand the use of this notion in design even if it is beyond the reach of this research to provide a comprehensive discussion on the concept. In the recent “Routledge Handbook on the Philosophy of Empathy”, the editor and philosopher Heidi Maibom (2017, p. 1) differentiates cognitive and affective empathy. She explains cognitive empathy as “the ability to ascribe mental states to others”, in other words, one empathises cognitively when one reflects on or positions oneself in the place of another to see how one would feel. On the other hand, she describes affective empathy (also often called emotional empathy) as a situation in which the empathiser is emotionally involved on a personal level. In the Handbook, Maibom (2017) concludes that cognitive empathy does not necessarily involve emotions, whereas affective empathy often involves cognition. However, other leading psychologists argue that empathy is foremost an affective process guided by cognition (Baldner & McGinley, 2016).

Within a design process, cognition and emotions, in other words, thinking and feeling, often get mixed. However, it is worthwhile to be aware of the existence of both dimensions, even if it might not always be important to separate them. In this regard, conflicting views on empathy were the primary finding from my extensive review across a selection of the literature within the design and architecture fields. Broadly, within these fields, scholars agree that empathy can build bridges between actors. However, in his extensive writings on empathy in architecture, Pallasmaa (e.g., 2015) ascribes the architect a strong role, and he understands the architect’s imagination, thus seeing cognition as a means of being empathically involved. This is similar to the way Maibom (2017) defined cognitive empathy, through the imagination, thinking how the other would feel. On the other hand, in the empathic design discourse, the main focus is on the user’s experience, and thus there is less emphasis on the role of the designer. In this approach, the cognitive is combined with the affective, designers and users are collaborating, and the proximity evokes feelings.

Considering the different views presented above, empathic engagement can happen on a scale ranging from only within the thinking domain to deep emotional involvement. Within this scale, the psychologists Conrad Baldner and Jared Ginley (2014) propose dividing the construct of empathy into six factors: emotional interest, perceived other’s awareness, vicarious emotional experience, perspective-taking and sensitivity. Additionally, the design researchers Wina Smeenk and her colleagues suggested self-awareness...
and personal experience should be added to the spectra of empathy (Smeenk et al., 2019). These aspects can help us to understand and develop our empathic behaviour. First and foremost, it is important to understand the essential qualities of an empathic experience: the interest and ability to share emotional experiences — both positive and negative; and the abilities to understand them while maintaining the self-other distinction (Baldner & McGinley, 2016). This kind of empathic understanding can motivate action in an altruistic way (Batson, 2011).

Nevertheless, empathy also has a shadow side. Diving deep into empathy can eventually cause a strong counter-reaction of empathic or personal distress if the balance between identification and the distinction between self and other is not preserved (Engelbrektsson, 2020). Distress often prevents action. To avoid such a drawback, both parties should maintain enough distance to not feel emotionally overwhelmed.

Moreover, empathy can also be misguided or fail, particularly when working across cultures or in situations where significant social distance prevails. Thus, we need to be aware of the risks when taking an empathic approach. The anthropologist and psychoanalyst Hollan (2017) has warned that knowledge obtained through an empathic approach can be misused — particularly if used by a third party — even if the original intentions were good. In other words, it is important to be careful when using personal information that has been shared in a situation of trust. Another prevailing risk is to fall into naive empathy, failing to recognise the projection of one’s own cultural and social beliefs, or one’s personal feelings and experiences onto others, particularly when the empathiser originates in a culture other than that of the empathised (Hollan, 2017).

The discussion on empathy I refer to here represents a Western view. I acknowledge that there are many other ways, practices and beliefs about understanding and feeling for each other in other cultures that are valuable and can be explained with similar or different concepts. Thus, empathy is part of the social and cultural environment in which it is embedded (Hollan, 2017). Likewise, there are often existing indigenous co-work practices that can be applied with advantage in a design process (Akama, Hagen, & Whaanga-Schollum, 2019). However, in this thesis, in which I investigate the relationship between designers and those they design for as well as the methods from design research used in architectural design, the Western view on empathy is applicable as a framework.

In the following sections, I introduce how I mapped out the meanings of empathy within the selection of literature in my review across architecture and design. As a result, I identified three approaches to empathy. Firstly, when it occurs from a distance; secondly, when users are engaged through empathic design methods; and, thirdly, when aspiring for horizontality and profoundness in the design process. The three emerging approaches represent a synthesis, that I further build upon in the following sections of this chapter as well as in Chapter 5, by proposing combinations of various empathic approaches in the design process.

4.2 EMPATHY WITHIN THE DESIGN PROCESS

A design process is a complex sum of parts with a mix of stakeholders. The beginning is often unclear and fuzzy (e.g., Sanders & Stappers, 2008), and the journey to the end is long. Some scholars propose empathy as an approach particularly for the beginning of the design process (e.g., Koskinen & Battarbee, 2003; Sanders & Stappers, 2014). However, others suggest an empathic approach throughout the design endeavour. For instance, the industrial design engineers Merlijn Kouprie and Froukje Sleeswijk Visser (2009) present empathy as a process of four phases or steps, based on several models from psychology literature. Their framework integrates ability, affective resonance and cognitive reasoning. The four steps are 1) discovery, when the designer steps into the life of the user, 2) immersion, when the designer lingers for a while taking the user’s point of reference, 3) connection, when the designer finds emotional resonance and meaning, and 4) detachment, when the designer steps out of the user’s life (Kouprie & Sleeswijk Visser, 2009, pp. 444–445). They conclude by arguing that when mindfully engaged in these four phases during a design process, designers can enhance their empathic abilities and design with increased understanding of the user’s perspective.

The design researchers Wina Smeenk and her colleagues (2016) conceive a framework of mixed perspectives, which proposes a holistic view of empathy as part of the design process. They identify three perspectives that support designers in employing personal experiences intentionally. In their terminology, designing conventionally, that is, looking at the users from afar without involvement, represents taking a third-person perspective. On the other hand, activating the users in collaborative exercises and therefore designing for a known other represents taking a second-person perspective. Finally, when designers experience the situation of the users personally, being part of the users’ system, and from that point design intuitively, designers take a first-person perspective.

These views on empathy as a holistic approach that designers can disperse throughout the design process and use in different situations inspired me to comprehend the concept more profoundly. Combining the different views in architecture and design suggest alternative ways of empathising according to the circumstances and the momentum in the design process.
This can be particularly useful when working in complex settings and with processes evolving rapidly. Through summarising my findings from the examined literature in the following sections, I seek to identify the particularities of the different views in order to combine them and allow the theoretical differences to complement each other.

4.3 USING OUR IMAGINATIVE CAPABILITIES

Empathy does not necessarily require a physical presence. In the architecture discourse, empathy is often discussed as an imaginative endeavour (e.g., Robinson 2015; Pallasmaa, 2015), whereas in design, the method of empathic handover enables empathising when the users are too vulnerable for collaborative activities (Smeenk et al., 2018). In both approaches, designers seek to empathise even when distant from the users. This is valuable when designing in situations in which it is difficult to involve the users.

In her essay “Boundaries of Skin” in the book “Architecture and Empathy”, the architect Sarah Robinson (2015, p. 47) emphasises that “empathy is a further expression of our innate sensitivity to the world”. She continues by referring to the philosopher John Dewey’s reflections on empathy as being rooted in our imaginative capacity and his definition of empathy as “entering by imagination into the situations of others” (John Dewey, 1932 as cited by Robinson 2015, p. 47). Furthermore, Robinson suggests that while imagination extends the reality of the world temporarily, empathy expands it spatially, being a bridge of connection between ourselves and other beings or elements (Robinson, 2015).

In the same book, in his essay “Empathic and Embodied Imagination: Intuiting Experience and Life in Architecture”, Pallasmaa (2015) discusses the issue of empathy in architecture from a phenomenological point of view by agreeing that it is possible to empathise through imagination. He proposes that the architects imagine themselves as users to the extent that the architect plays the role of “a surrogate mother who gives birth to a child of someone who is not biologically capable of doing so herself” (Pallasmaa, 2015, pp. 12–13). The child represents in this case the designed home or building.

This view is criticised by some scholars, who claim that the senses, both physical and mental, of somebody else cannot be imagined rightfully or observed from the outside to be replicated and felt by somebody else (Krippendorff, 2006). Similarly, the philosopher Dan Zahavi (2018) has defined empathy from the phenomenological perspective as “expressive understanding that requires bodily proximity and allows for a distinct experiential grasp of and access to the other’s psychological life” (p. 42). This definition embraces physical experience, which is critically important in architectural design given that spatial qualities and our relation to space is essentially physical. However, as an example, watching a movie showing a close-up of a crying face can easily evoke empathy in us, regardless of the actual physical distance.

This is further emphasised by Pallasmaa’s (2014, p. 82) view that architects can “simulate an actual sensory, emotive and mental encounter with an imagined entity”. With the help of their imagination, architects can be the user and thus emulate similar emotions to those that the users come to experience. Thus, the design process becomes a course of action geared toward internalising the physical realm and projecting one’s self into it, a combination of thinking and feeling (Pallasmaa, 2014). Consequently, talented architects can imagine atmospheres and create them. When imagination is fortified with the capacity for empathy and compassion, they can project themselves into the inner worlds of others (Robinson, 2015). In this way, it is possible to create architecture that can dignify human life (Pallasmaa, 2014).

A deeper issue lies in the contextual limits of empathy in design. Pallasmaa is implicitly reflecting on empathising in culturally shared contexts and practices such as the use of space by architects and users in contexts that are well known to both sides. The architectural solutions thus comprise relatively limited potential differences, culturally speaking. When the contexts are less familiar, the limits of empathy become more pronounced, so much so that empathising, especially through bare imagination, is not reliable. Furthermore, in particular situations, take for instance empathising on the work of medical surgeons, it is beneficial for designing a surgical instrument, but to really succeed with it one also needs deep contextual and interactional understanding of how operating teams, surgical procedures, communication and interaction play out. There is ample evidence that this kind of understanding cannot be achieved by empathising, but it requires a more in-depth and situated approach (e.g. Hartswood et al. 2002; Hyysalo & Lehenkari, 2003; Botero, 2013).

This conscious experience of empathy, according to one phenomenological approach, happens from a first-person point of view (Woodruff Smith, 2013). However, according to my understanding of the mixed-perspectives framework presented by Smeenk et al. (2016), this imagined first-person point of view, presumably lacking immersion with real users, would actually constitute a third-person perspective. Moreover, compared to other approaches in design (in which the actual users physically collaborate in the same space as the designers), this imaginative approach is primarily cognitive because the action happens as a mental output. This idea is in tune with Maibom’s (2017) explanation of cognitive empathy: the ability to em-
In this view on empathy in architecture, the architect does not necessarily have any contact with the users. For similar situations in the field of design, the empathic handover approach was created to develop empathy in designers when they could not meet the users, for instance, when designing for vulnerable users or for others who, for other reasons, are incapable of engaging in co-design (Smeenk et al., 2018). Wina Smeenk and her colleagues developed this method when designing for dementia patients. The method is threefold. It begins with a sequence in which a designer becomes involved with the users and harvests first-hand information using traditional user research methods. This is followed by a sequence in which the designer hands over the information to the other designers in the team through discussions and role-play activities to build empathy in the team focusing on the question “How would it feel if…?”. It finally ends with an empathic ideation workshop among the designers, not including the users. This approach requires that there is a person (not necessarily a designer) who is physically engaged with the users during the first sequence. On this point, Smeenk and her colleagues (2018) emphasise that it is important that this person has experience in empathic design because the designer is the one who leads the handover and design workshop sequences. However, if the designer cannot execute the initial user research, the person responsible for the first sequence could potentially be anyone who has insight into the vulnerable users (i.e., without design experience), whereas a designer would lead the workshop together with this person. In that case, this form of empathic design could happen entirely at a distance because the designer and user would not be close to each other.

When we observe other people, we can observe from a distance or be part of the observed field (Flick, 2009). If they are in the proximity when we observe, the physical and also potentially the psychological distance between the empathiser and the empathised is smaller than when we imagine because, in this case, the object of our imagination does not have to be in the proximity, nor even exist as a living being in reality. As an observer, one can keep a proper distance, and only observe, whereas, alternatively, one can participate in activities with the objects of observation [Lincoln & Guba, 1985]. When only observing, there is a distance between the observer and the observed, and they are not fully engaged with each other, even if the observer might in some situations interfere with the observed person or being observed can affect the behaviour of the observed. Yet, when observing and meanwhile engaging in activities together, the observer has two simultaneous tasks to accomplish [Lincoln & Guba, 1985]. In both cases, being in physical proximity, the designer/architect can experience both cognitive and affective empathy. For instance, we can stay distant and, while we observe, think how it would feel to be in the position of the other, or we can through the observation feel the emotions of the person we observe. Regarding empathy through observation, there has been ongoing neuroscience research on the matter since the discovery of mirror neurons in the 1990s (Debes, 2017). The mirror neurons are activated in our brain both whether we do something ourselves or whether we observe somebody else doing it. This indicates that observation evokes empathy to some degree. However, it is still unclear whether this reaction is proper empathy or might remain only at the level of recognition (Debes, 2017).

In the design field, design ethnography is a methodology in which designers or researchers observe the users often from a distance (e.g., Szymanski & Whalen, 2011; Steen, 2008). When practising ethnography, the designer observes people’s lives to understand it but not to interfere or change their living patterns. Ethnography has its origin in anthropology, sociology and ethnomethodology as a method of enlightening and understanding different perspectives of everyday lives. Currently, ethnography is also a common, widely discussed and utilised approach in design as it provides a qualitative description of cultural practices (e.g., Szymanski & Whalen, 2011; Sanders, 2006; Steen, 2008).

The design researcher Mark Steen (2008) has further elaborated on applied ethnography, which was pioneered by the anthropologist Lucy Suchman when studying people-machine relations in the late 1970s (Suchman, 2011), as a design research method and recommended its application for understanding people’s habits with a focus on particular sub-areas of their lives. By using ethnography in that sense, the designer can frame the endeavour according to what is relevant for the design task (Salvador et al., 1999) (Fig. 25). Applied ethnography, in my understanding, is a more superficial and short-term ethnographic activity than the older, more rigorous academic ethnographic traditions in, for instance, anthropology, as part of which researchers often live and aspire to be part of the societies they study. Applied ethnography allows for delimitations and a focus on a particular phenomenon or segment. In this regard, Sanders (2006) and Steen (2008) suggested that designers should lead the applied ethnography in design because they are the ones actively making efforts to gain a better understanding of the users while observing their lives. This happens in the natural surroundings of the users, and requires physical presence, even if there is no need for thorough engagement with the users. Nevertheless, being in their proximity or entering their space affects the situation. In the design field, this problem is acknowledged, particularly through the use of video ethnography. This method has been developed creatively within design in recent decades using the videos as design material and involving us-
In empathic handover and design ethnography, there is a connection between users and designers, even if they might remain distant from each other. In these approaches, the designers predominantly observe the users from a third-person perspective, although they might lightly engage with users from a second-person perspective and even experience some moments from the first-person perspective, according to the mixed-perspective framework (Smeenk et al., 2016).

When the designer or architect primarily relies on imagination or developing empathy through cognitive activities, it might not always accurately reflect the actual situation of the user (Morton, 2017). Moreover, one’s imagination might only partially correspond to reality, one’s observations might only show one side of the reality; additionally, one’s interpretations of stories might not be accurate. For architects and designers, neither imagination nor observation alone are enough if we want to truly understand the users because these means of empathising do not reveal the users’ inner thoughts, feelings or motivations (Fulton Suri, 2003). As a response to this claim, there are several empathic design methods for the purposes of user engagement that can help architects and designers to approach the inhabitants and users.

### 4.4 Engaging Users through Empathic Design Methods

A discussion around user involvement in the design process has been part of the design discourse for decades. The discipline represents multiple approaches, methods and tools to support the endeavour of understanding users with empathy (Sanders & Stappers, 2014). Leonard-Barton introduced the term *empathic design* as an umbrella for market research methods with a focus on users (Leonard-Barton, 1995). She proposed three characteristics: 1. Actual observed user behaviour in situ for a period of time, 2. Direct interaction between designers and users, and 3. Drawing on existing technological capabilities (Leonard-Barton, 1995, 194–195). Thereafter, the term was further developed to guide designers to understand the customers’ needs and aspirations with an open-minded attitude, observational skills and curiosity, even before the potential customers could recognise these themselves (Leonard & Rayport, 1997).

#### 4.4.1 Empathic Design

Today, empathic design is not only related to commercial design because it aims to help designers in general to understand what is meaningful to users and why, and to make design decisions based on this understanding (Smeenk et al., 2019). This approach is widely adopted in the field of design and it has entered into practice in various ways. The concept is thoroughly discussed in the book “Empathic Design: User Experience in Product Design” edited by Ilpo Koskinen, Katja Batterbee and Tuuli Mattelmäki (2003). They describe empathic design as a series of techniques that combine design and qualitative research. The types of techniques, mostly originating in other disciplines, that have been used by designers and design researchers include *design probing* (e.g. Gaver, Dunne & Pacenti, 1999; Mattelmäki, 2006), *storytelling* (e.g. Battarbee, 2003), *prototyping* (e.g. Sanders et al., 2014), *design games* (e.g. Brandt, Messeter, & Binder, 2008; Mattelmäki, Vaaajakallio & Koskinen, 2014), observation and *shadowing* (e.g. Fulton Suri, 2003), and *empathic handover* (Smeenk, Sturm, & Eggen, 2018; Smeenk, Sturm, Terken, & Eggen, 2018). Designers can mix and combine these in various novel ways to enable an empathic understanding of users’ experiences (Sanders, Brandt, & Binder, 2010; Sanders & Stappers, 2008, 2014). In
all of these methods, the designers seek interaction with the end users or future inhabitants, trying to empathise with their life experience from an early stage of the design process. The focus of this interaction includes the individual desires, moods and emotions of the users that can inspire and guide the project.

Empathic design represents a form of cognitive empathy, in which designers understand users cognitively, without placing a strong emphasis on how this understanding affects themselves emotionally. However, the more profound the process, the more emotionally involved the designers can become. Moreover, according to the mixed-perspectives framework (Smeenk et al., 2016), the empathic design process constitutes a second-person perspective due to the fact that the empathic design discourse often focuses mainly on the user perspective, without considering the designer’s personal experience (Smeenk et al., 2016).

One of the tools within the empathic design approach is design probing. The design researcher Tuuli Mattelmäki (2006) has, through her extensive research on the tool, proved its value as part of a larger participatory agenda for understanding human phenomena and unveiling design opportunities. This method stood out as useful for me in this regard in the empirical case studies (see Section 5.2 “Engaging Empathy” and Paper IV). Therefore, I will elaborate on that particular method in the following subsection.

4.4.2 DESIGN PROBING

When designing in low- to middle-income settings, where there might be several constraints as described above, it is important to identify flexible methods that are easy to modify according to cultural, physical and time circumstances. In this regard, designers have used design probing and found it to be a valuable tool when designing in socially critical contexts with and for vulnerable users (Debrah et al., 2017). This method has its origin in research subject self-documentation kits employed in ethnography and sociology (e.g., Adler et al., 1998; Mattelmäki, 2006). As used in empathic design, the method was developed from cultural probes, devised by the psychologist and design researcher William Gaver (1999) and his colleagues, pioneers of design methods and probing. The method engages users but, depending on the circumstances, there can be differences regarding how designers execute probing, with varying levels of physical proximity between designers and users. The generic structure of design probing is that the designer prepares a set of assignments, known as a probing package, and sends or gives it to several users who accomplish the assignments on their own and then return the package to the designer. Potentially, this can be followed up by designer-user meetings.

In her doctoral thesis, Mattelmäki (2006) described three features of design probing: the assignments’ focus on the user’s perspective in a broad sense, from the cultural environment to feelings and needs; the participant’s self-documentation; and the exploratory character of the exercise, seeking to identify new opportunities. Consequently, the emphasis of the probes is to inspire what ought to be, in contrast to capturing what is (Boehner, Gaver, & Boucher, 2012). Between the is and the ought to be, there is space for creativity. In this respect, design probes intend to support both users and designers in expanding their creativity. Undeniably, creativity is the main driver in the different phases of the probing process. Firstly, designers create the probes to be as inspiring as possible before distributing them to the participants who, secondly, creatively accomplish the tasks, and thirdly, designers make use of the material received from the participants as creative inspiration for the design task (Gaver, Dunne, & Pacenti, 1999). The creativity of the designer, when preparing the probes package, receiving the probes and inspired by them, and designing, is motivated by the empathic understanding because the input and experiences of the users primarily guide the design.

Furthermore, when receiving the probes, the designer acquires the opportunity to acknowledge certain aspects of the users’ lives that would otherwise have remained opaque, due to the distance between them. For the users, the activity can make the familiar seem interesting when viewed through the designer’s lens as provided in the probing assignments (Gaver, Boucher, Pennington, & Walker, 2004). On the other hand, for the designer, the probing results can illustrate something surprising and unknown to them, but, through the personal insight of the user, make it familiar (Gaver et al., 2004). Upon receiving the probes, the participants do not know the exact intention behind the exercises because of the distance between them and the designer. Thus, they can personally interpret the assignments and respond with creative freedom. Likewise, for the designer, this detached though still close view into someone’s life can be a fruitful standpoint for innovative design ideas; such an “intimate distance” leaves the freedom required for creativity (Gaver et al., 2004, p. 6).

In design probing, one can detect the different approaches of empathic engagement and understanding, as previously presented, throughout the entire process. To design the probes, designers have to imagine them- selves in the place of the users, based on their own experiences. At this stage, the capacity to involve personal experiences that can deepen the imagination is valuable. In the second stage, designers create inspiring tasks for users to allow them to share important aspects of their lives. Here, designers engage with users to be able to grasp their emotions and aspirations (Gaver et al. 2004; Mattelmäki, 2006). In the third stage,
designers seek to understand the responses emotionally, not merely intellectually (Gaver et al., 2004). Originally, Gaver and his colleagues (2004) criticised the application of probing for merely obtaining information rather than getting inspiration. They argued that applying probes to get objective answers in research frameworks endangers the original intentions of the method, which values uncertainty, play and exploration. Furthermore, they argued that most research techniques tend to disguise subjectivity through controlled procedures, the results of which can be considered impersonal, whereas probes can take the opposite approach. In their own probing processes as designers, they refrained from believing that they could scrutinise the heads of the users and instead made use of their subjective interpretations. Encouraging this subjective engagement and empathic interpretations, Gaver and colleagues (2004, p. 56) still accepted that designers can use probes for collecting research material. However, they anticipated that the original motivation of the probes, to retain a “pervasive sense of uncertainty”, should be respected. Nevertheless, if the designers interpret the design probing results with the participants, the understanding can be more profound.

In the empathic design approach, the designers seek to understand users with various methods and tools. However, there is a constraint related to the rigid focus on existing methods that lack culturally embodied critical engagement (Botero et al. 2020). For instance, the format of the methods or the way they are executed might not be customised according to the users’ cultural background, level of education or position in the society. Therefore, to have a socially sustainable outcome, it is crucial to consider the contextual and situated practical aspects of all methods used, in other words, to customise the methods, tools and materials to the users/inhabitants and to employ them in culturally specific ways (e.g., Messeter et al., 2012; Akama & Yee, 2016; Botero et al. 2020).

4.5 AIMING FOR HORIZONTALITY IN DESIGN

Recalling that the task of architecture is to mediate human relationships and that the design process aims to connect stakeholders with the objective of building trust and shared understanding, there is a need for enhancing proximity between designers/architects and users/inhabitants. This need is particularly important when considering the prevailing risk of misunderstandings when working across cultures or with underprivileged, vulnerable or marginalised users in low-to-middle-income settings. It is acknowledged in ethnography discourse that there is much to be investigated in the hope of achieving “higher-level forms of human empathy” (Hollan, 2017, p. 349). It is not unambiguously good to take a first-person-like perspective on other people’s lives because it involves the risk of errors and can easily be used to harm instead of help — creating boundaries instead of building bridges — while dividing people into victims and rescuers (Hollan, 2017) (Fig. 26).

In the design discourse, a precaution against this risk and a step towards a more profound process is to put the emphasis on awareness and sensitivity. In recent literature on empathic design, some researchers emphasise sensitivity as the original cornerstone in empathic design, indicating that designers should acknowledge sensitivity towards people, tools, collaboration and designing (Mattelmäki, Vaajakallio, & Koskinen, 2014). To these, there should also be added — particularly when working in different parts of the world — sensitivity towards cultures, habits and practices. In this regard, the techniques and methods of empathic design allow designers to empathise with people in different physical, social and cultural contexts (Koskinen & Battarbee, 2003). Moreover, there is a call for developing sensitivity to behavioural nuances and details (Messeter et al., 2012) and applying intimacy and awareness when designing for social innovation (Akama & Yee, 2016). These aspects are particularly meaningful beyond the traditional design realm, for instance, when the design is acting as a moderator of change in complex settings where there is a significant distance between actors or when users are in a vulnerable position. In these kinds of situations, it is crucial for the designer to learn about the users and the context and to develop a common understanding and a common aim for the project with all actors (Brandt & Messeter, 2004).

Based on their experiences with vulnerable communities in Cambodia, Hussain and her colleagues (2012) listed the difficulties that they faced, to begin with when employing co-design tools, due to local habits and culture. In this case, the users were shy about participating. The attempt to achieve deep insights into user needs required a thorough understanding of the culture, time and the involvement of various stakeholders, not only the end-users. They advocate for awareness about the risks posed by superficial outcomes in an empathic design approach, particularly under circumstances when the users are not accustomed to being engaged or asked to share their opinions. Trust needs to be built over time because it supports the aim of achieving horizontality.

The design researchers Yoko Akama, Penny Hagen and Desna Whanga-Schollum (2019) underline the importance of sensitivity to the other in intercultural situations. For example, there may be pre-existing issues, such as the users might have been subject to previous consultations or research without outcomes, the translations of concepts could have been misinterpreted, or existing power relations might be unclear. Concerning this phenomenon, Akama and Joyce Yee (2016) have been critical of any traditions,
Design probing can also be used as a preparation for interviews with the participants. The feeling the designer has of already knowing the participants after the probing exercises mentioned above, and the process of self-documentation the participants have gone through are good foundations for meaningful and well-informed discussions. Particularly in situations where there is a distance between designers and participants, it is critical for designers and participants to meet, discuss, co-explore and make sense of the results together when the probes are returned (Mattelmäki, 2008). This can even be seen as a prerequisite to achieve horizontality. If it is not possible to meet physically, this can in some circumstances potentially be arranged remotely. Given the vast use of self-documentation kits in the social sciences, it is evident that it is these dialogic moments that create probes as reliable as knowledge creation devices. The use of “cultural probes” (Gaver, 2002) rests on settling on inspiration for design, not producing accountable design for radically differing contextual conditions.

When adding the layer of sensitivity to an empathic approach, it is also possible to create trust in situations in which the distance between designers and users is significant or where the users are in a vulnerable position. On the other hand, an intimate approach to empathy takes the collaboration to more profound levels when inviting all parties to open up to each other and to share both commonalities and differences. In this approach, the focus is equally on the designer and the user. This immersive yet open nature of the relationship between designers and users allows the designer to be emotionally involved. It also indicates a deep empathic engagement in which the designer feels from a first-person perspective, according to the mixed-perspectives framework (Smeenk et al., 2016) discussed earlier.

With this kind of approach, when designers modify the methods with sensitivity to the users and their own distinctive heritages and the particular characteristics of their relationship, no design process will be the same. This is supported by the clinical psychologist Carl Rogers’s (1961, p. 332) discoveries in his practice in the 1950s, in which “understanding with a person, not about him” makes a significant difference in the relationship. In his case, the listener, and in my case, the architect, needs to be prepared as I “run the risk” or get the opportunity “of being changed” myself (Rogers 1961, 333). As designers and architects, we should willingly step into the voids that are not yet known and be open to potentiality (Akama, 2015). If we pay attention to these voids between us, boundaries can be transformed into togetherness (Akama, 2015). When we intentionally and actively aim to reduce the distance between we architects/designers and the inhabitants/users, we are open to stepping into that void of unknowns and exploring it with curiosity. This is how the new can emerge out of co-design.
Figure 26. Kwange maternity ward, Zanzibar, 2016. Sensitivity is imperative when collaborating with users in situations where they might feel vulnerable.
5 BRINGING THEORY TO LIFE

The previous chapter presented a deep dive into some of the main academic discourses and conceptions concerning empathy in design. Here, in Chapter 5, I reflectively inquire into the different theoretical findings presented above in relation to my own empirical experience in the field with the housing and maternity ward design projects in Zanzibar and Odisha. Thus, my objective now is to respond to research question 3: How can empathy be applied in practice to contribute to decreased social distance between actors and increased horizontality in design?

In this research, I focused on the relationship between the architect/designer and the dweller/user and particularly on aspects of empathy in this relationship. This thesis proposes that it is crucial to involve users and inhabitants in the design process in order to achieve socio-cultural sustainability (Papers I and II). Additionally, it suggests that several methodologies and methods are valuable for architectural projects in low- to middle-income countries (Paper III). In particular, design probing within the empathic-design methodology stood out as beneficial due to the horizontality it promoted in the encounters after the exercises, even though it did not require a long-term engagement (Paper IV). Furthermore, the literature suggests that designers can practice and feel empathy in both cognitive and emotional ways and can develop it in situations, whether they act from a third, second or first-person perspective.

With the help of the literature and analyses of the research material of the two empirical projects of this thesis, I identified three means of empathising in the design process: through imagination and observation, through engagement and collaboration, and through sensitive and intimate encounters. Inspired by the positive results of an empathic engagement in challenging settings and to characterise the key findings, I propose a set of registers of empathy because, in practice, I believe we can use our empathic skills in the way that a singer uses vocal register. Some songs require a high pitch. Likewise, a particular design project may either allow for or require a particular register of empathy. Conversely, in the same way that some songs need multiple registers to resonate, some projects also require a wide range of empathic engagement to achieve a sustainable result. Thus, the registers either need to be combined and used in different parts of the design process or to be employed separately, according to the circumstances of each design case. Regarding the registers that I have identified through the work with this thesis, I refer to them as empathy from a distance, engaging empathy and empathy in depth (Paper V).

This section is organised according to the narrowing social distance — psychological, but also often physical — between designers/architects and users/dwellers while empathising. The sections are named after the registers identified above. I re-examine the theoretical findings from the previous section by reflecting on practical examples as well as on the conclusions that I have arrived at by analysing the data from the field (Table 1). Consequently, I present the findings of combining theory with field experience.

5.1 EMPATHY FROM A DISTANCE

In the first register, empathy from a distance, as the name implies, there is a distance between the architect/designer and the inhabitant/user. In this register, architects and designers use imagination and/or observation as a tool with which to empathise. The process involves the architects/designers imagining themselves as users. Alternatively, the architect/designer lays the focus on the user through observation. In this form of empathising, the architects/designers value their embodiments, presence, and experiences; they play the important role, while the actual users are not present at all or are observed from a distance.

When designers and architects remain distant from the users and rely on imagination, there are endless possibilities that might only partially correspond to the reality perceived by the future users or dwellers. For instance, when designing the maternity wards, not all the designers in the group had experienced pregnancy and delivery themselves, and therefore, would have been unable to accurately imagine a situation in which they would be a person giving birth. In this regard, reducing the distance between designers and users through collaborative exercises is crucial. Even in a situation in which the activities are familiar, some aspects might be different and lead to misconceptions.

As an example, from the maternity-ward project, those of us designers who had given birth ourselves imagined that the users, in this case, Indian mothers-to-be, would have preferred to move around during labour, even if they had not expressed this in the interviews or workshops (Fig. 27). This conclusion came from observing the mothers-to-be being held in a certain position and asked not to move on the delivery bed or to lie down. Recalling our own deliveries and the need to move, we designed a space and different props that would allow for physical activities. However, when the newly renovated ward was taken into use, the women did not use any of these possibilities for movement; they continued to wait sedentarily or lying down (4th Wheel Social Impact, 2018). This example illustrates that, poten-
This disconnection revealed the complexity within the dynamic and the risk of imposing one’s own beliefs onto another setting, when we would have needed to recognise and explore further at that point in order to resolve it.

When there is a possibility to move a step closer to the users, architects/designers can apply design ethnography to improve the design results by combining their imagination with observation of the reality. The act of observing the living conditions of the users does not require the engagement of the users and might, therefore, be practical in a situation in which user engagement is difficult. In the two empirical cases presented in this thesis, observation was crucial for the design result, in order to have an overview of the activities in the neighbourhood, to observe the living conditions of the inhabitants, and to follow the operations in the existing hospitals (Fig. 28).

In the housing project, the observations, the documentation of my observations and their analyses enabled me to understand how people used their houses, where they spent their time, and what parts of the house were significant for whom. For instance, when I investigated the interviews, the results from the workshops, and the material submitted through the probing exercises, nobody had mentioned the importance of the porch. Yet, when I observed the inhabitants, I noticed that the women often spent time on the porch in the evenings, chatting with neighbours or visitors, while the men gathered in the public squares of the neighbourhood. When the architects, as in my case in this situation, are from a different culture, come from another social level or are not knowledgeable of all activities in focus for the design task, observation can reveal aspects so deeply embedded in habits or culture that the inhabitants are unaware of them or perceive them as obvious or not worth mentioning.

Empathy from a distance embodies the value of the architects’ and designers’ presence and capacity to employ their personal experiences and an active motivation to imagine being the user. Even if it is often insufficient to imagine in order to thoroughly understand one another, the ability to imagine is an advantage that we have and can develop further. However, it is not always possible for architects and designers to be close to the inhabitants or user, so our capacity to imagine and be affected emotionally by the imagination, as if it were our own reality, is valuable. Architects and designers remain an integral part of the design process, and their imagination naturally appears as a creative component of the design process. This means that they cannot and should not erase their own experience, since it is also valuable not merely from a professional point of view.

In this register, the active role of the architects/designers can provide them with the freedom and opportunity to introduce solutions that, for in-
Figure 28. The outdoor public space in Ng'ambo is used for all kinds of activities, communal, commercial or private.

In this context, support sustainability in situations in which customs or user aspirations would otherwise prevent a development in this direction. However, the risk of making cultural mistakes remains a significant concern due to the distance between professionals and users. In this respect, it is usually not difficult to introduce a new technology or a novel building development. The challenging part is ensuring that the new ideas survive and take root in the long term. To act within the other registers of empathy can potentially respond to this challenge.

Empathy from a distance includes conventional architectural design methods, such as observing the site and its surroundings and studying the climatic and cultural conditions, before a design project starts. Various factors, such as the use of urban space, spatial hierarchy, methods of participation, building tradition and sanitation solutions build upon the knowledge of local core cultural values related to the use of physical space and construction. It is possible to study some of these aspects in vernacular architecture (traditional architecture built without architects). However, it is only through studying the ongoing living conditions and valuing the way people live that the architect/designer can truly understand the local behaviour in creating and using architectural space. Thus, when the architect pays par-

ticular attention to the inhabitants, their lives, activities, and behavioural details, it lifts the observations to another level. The architect learns about the inhabitants’ lives and lets this understanding affect the design. Nevertheless, as this register does not invite the inhabitants to engage in the design activities and actively influence the design, they can easily become objectified. This also means that architects in the roles of observers can distance themselves from the inhabitants. To prevent this and make the situation feel more natural and engaging, I found it helpful to be involved in practical activities and, even if for a short period, be part of the community while observing.

Empathising from a distance has limitations and can result in an outcome that users might not adopt. In this regard, when imagining, there are many risk factors because our imagination is based only on our own experiences, learning and observations. We cannot neglect the existence of our own legacy. Thus, an imagined situation is probably not entirely accurate. Indeed, when observing, it is possible that only one side of reality is revealed, while the other stays in the shadows. The larger the background gap between the inhabitants/user and the architect/designer in terms of societal status, geographical location, gender or age, the greater the possibility for inaccuracy in imagination and misinterpretations in observation.

5.2 ENGAGING EMPATHY

The second register, engaging empathy, involves the users in the process through empathic design methods, and the designers value the users’ experiences, opinions and aspirations to a great extent. In this register, the users play an important role in the design process, whereas the designers stay in the background.

After having analysed the three housing-design projects with two sustainability-assessment tools, as explained in Paper II, we came to the conclusion that aspects such as trust, transparency, choice, interaction, inclusivity, capacity-building, adaptability, familiarity and sensitivity all require engagement with the inhabitants. For instance, if there is a great social distance between the stakeholders and they remain far from each other in the design process, it can be difficult to create trust. Alternatively, if the project aims at a long-lasting sustainable outcome, there is often a need for capacity building, which requires the engagement of the users. Engaging users improves the chances of attaining a holistic, sustainable outcome, in which socio-cultural, environmental and economic aspects are equally taken into account. Specifically, to move towards socio-cultural sustainability, the community that will inhabit the design needs to be involved in
one regard or another. As a result of the projects presented in this thesis as well as my practical experience with a dozen projects in various low- to middle-income settings, I have learned that architectural design must be executed on-site in order to achieve participatory engagement throughout the design process. This engagement can happen on different levels, using several methodologies and methods with varying proximity. Nevertheless, the more contact there is between architects/designers and inhabitants/users, the easier it is to build trust and achieve horizontality that can then result in a locally rooted design.

From a theoretical point of view, as presented in Chapter 4, Section 4 there are several methods that architects/designers can make use of for user engagement. In this respect, the advantages and disadvantages of the methods that I empirically employed in the housing project are revealed in the findings of Papers III and IV. In the comparison of design ethnography, co-design workshops, theme discussions and design probing, workshops seemed to be more challenging as a form of co-design in settings with severe contextual constraints, whereas design probing came to the fore-ground as an approach with several benefits.

Regarding the workshops, I perceived them as challenging in the housing project for many reasons. Firstly, the arrangement of taking people away from their natural surroundings, their daily routines and activities made it difficult for the participants to take part. Additionally, when arranging a workshop for a group, the combination of actors is crucial. In this case, there were inner structures within the community that potentially created tensions. Thus, differences in income levels, age, gender, political views, or property ownership, all present in this case, probably affected the outcomes of the workshop. The more sensitive the topic, the more responsive one needs to be when planning a workshop. Nevertheless, workshops are beneficial when there is a need to reach a large group of people to share information uniformly and conduct the same exercises. In this regard, it is also important to be both flexible and prompt at the same time.

On the other hand, the workshops arranged in the maternity ward project were fruitful. In this case, the participants belonged to homogeneous groups because we arranged separate workshops for mothers, fathers, birth attendants and healthcare workers (Fig. 29). Although it is good to meet people in bigger groups to be able to share the same information with everybody, it is often advantageous to co-design in small and homogenous groups if possible. Additionally, it is important that the activities recognise and respect local customs. There can also be an advantage in arranging workshops toward the end of a design project, when the distance between architects/designers and inhabitants/users is already reduced and they know each other.

The empathic design method of design probing, which is the particular focus of my attention in Paper IV, can be applied by architects/designers in the very early phase of a project as a foundation for collaboration or in a situation where meeting the inhabitants or users is impossible to arrange. In the housing project in Zanzibar, design probing invited inhabitants to take an active role in changing their living environment and helped me to understand the community that I was designing for (Figs. 30 and 31). It allowed me to produce exercises that focused on the aspects that were important for the design and also to raise awareness of particular issues regarding the current lives of the inhabitants and the future need for density in the area. Having their attention directed to aspects of their everyday life and their environment through the probes, the participants may feel encouraged and empowered to tackle these issues themselves. For architects working in low- to middle-income countries, using a method that supports empowerment can be an asset for the future development of the area. As an example, related to this, the probing exercises led to one of the participants opening a small shop in his house. In the probes, he had envisioned that he would be a shop owner when the new houses were built. However, the design process was long, and the new houses have not been built as yet.
Thus, he realised that he could transform a shed next to his house into a little shop and establish a small public outdoor seating area in the triangular space in front of the house. Consequently, he both improved his own living conditions and contributed to the well-being of the community.

Another advantage of design probing is that the participants get time to contemplate their responses thoroughly. Thus, if the exercises are well prepared, the results have the potentiality to reveal their aspirations and dreams. In this sense, even if there is no collaboration between architects and inhabitants in the same physical space, it is possible to improve understanding between actors through probing. When I received and studied the probing results, it felt as though I had been a visitor in the households for a much longer period than the brief introductory meetings that we actually had on the porches. It also made me feel like a guest, bringing my attention to aspects of the homes that would have stayed obscured through observations alone, and I came to appreciate these homes and their inhabitants. Additionally, in some of the cases, I had discussions with the participants based on the results of the probes. Particularly in these cases, the probing exercise helped me to feel proximity to the participant as a starting point and also served as a basis for well-informed discussions. Thus, the probing yielded deep insights into the world of the inhabitants without demanding excessive effort on either part and helped me to connect to the inhabitants and to feel a proximity regardless of the prevailing distance.

It is difficult to say how the various and necessarily asymmetric benefits of the probing exercises became distributed in the course of the design process. During the process the participants were informed about the future plans in the area and had an opportunity to contribute to its development. Nevertheless, although I know that I learned a lot from them, they might not have learned as much from me. Moreover, even if the exercises did not require long-term and time-consuming input from the participants, it did, however, require some commitment. As the houses have not been built to this day, the participants have not yet benefitted from the outcome of the project, even though they shared their lives with me and helped me to design the project. They may have experienced this as being extractive, although this is speculation because none of them shared any concerns regarding this with me.

Nevertheless, in this case, the probing exercises allowed for the generation of solutions that neither I nor the participants would have been able to create independently. Additionally, our experiments illustrated that architects are able to apply design probing within a short period and thereby adapt to the rapid urbanisation pace of cities, which cannot be achieved with traditional participatory-design practices.

All the methodologies that I employed deepened and enriched the design process. For instance, in the housing project, one of the results of engaging the users as part of the design project was the activation of the community. When the inhabitants noticed that their participation mattered and could translate into development, their feeling of empowerment and ownership was enhanced, and this potentially encouraged further actions to develop their community. As an indication of this, for instance, I learned that one of the participants had organised a discussion group around the future of the neighbourhood initiated by the participatory process.

When engaging users, regardless of which design method is used, it is an advantage to customise the methods according to the inhabitants’ culture. While engaging with the inhabitants, I noticed that if the engagement was not conducted with sensitivity — if, for instance, it happened in a hurry, in an uncomfortable space, or in unclear circumstances — I could misinterpret emotions, and the openness would disappear. Additionally, when I...
focused on the point of view of the inhabitants alone, the acknowledgement of my own know-how and feelings was easily blurred. There are other risks that we need to be aware of when conducting an empathic approach. The designer can, by mistake, misuse the information obtained, even if the original intentions were benevolent. For instance, as architects/designers, we need to be aware that personal information shared in confidence might be revealed through design solutions.

To summarise the register of engaging empathy, it can be said that it places the emphasis on the users/inhabitants, with a pragmatic focus on their activities, emotions and aspirations, and using practical methods and tools. In this register, they are in the spotlight. Thus, the designers/architects seek to understand them with sensitivity, curiosity and integrity. However, this approach can sometimes remain superficial, as discussed earlier, partly due to the rigid focus on methods. Therefore, it is important to employ the methods in culturally specific ways and adapt them to the particular users/inhabitants. When the users have an active role early in the design process, they can potentially appreciate the familiarity of the design and be capable of modifying it according to their future needs. Additionally, once designers and architects hear and engage people from the beginning of a design process, everybody can commit to the mutual aims of the project and the design result will be a collective creation.

5.3 Empathy in Depth

The third register, empathy in depth, implies a profound encounter between actors. To take empathy to a more intimate and sensitive level, both users and designers need to open up, share about themselves, search for existing similarities but also take an interest in differences. In this register, everybody has an active role. It allows for design results that ideally are deeply rooted in local culture and which inhabitants and users can perceive as their own.

To collaborate on an equal level, architects/designers from a different geographical location or from a very different social level must be humble and aspire to position themselves on the same level as each of those with whom they are collaborating. Thus, a self-serving attitude only takes stakeholders further from each other, as discussed in Paper I. Instead, sensitivity and empathy can be a means to reduce social distance and enhance proximity between stakeholders. As such, it is important that the architect has the ability to listen to people’s emotions and support an empathic environment. Developing the sensitivity of designers, architects and other stakeholders can help us/them to understand the diverse and transformative conditions of people. For instance, when inhabitants face eviction risks, as in the housing-design case that I studied, an atmosphere of trust, in which inhabitants can talk openly and also share their fear, can have a positive influence on the project as a whole and support togetherness — “we are tackling this challenge together to reach a common goal”. When comparing the different activities in my notes, I could notice a difference between the responses, in situations where I had felt relaxed and acknowledged that there was trust between the participant and myself. In these situations, light was also shed on problematic aspects and an attitude of togetherness was apparent.

Some design methods encourage relaxed and trustful encounters better than others. From my experience with the projects discussed in this research and based on my analyses of the research material, personal meetings, in which I had a conversation with only one person at a time, functioned better than group meetings. To conduct a design process in a sensitive manner, architects and designers need to develop their personal skills of sensitivity. If there is a social gap between the designer and the user, a step towards intimacy will support the horizontality. However, in an intimate meeting, the architect needs to be aware of the risk of despair, particularly if the users find themselves in difficult or devastating situations. In such a case, the designer also needs to be especially careful not to further victimise the users but let them maintain their agency and dignity. Sometimes, the best solution is not to intervene, but to step back, listen and be sensitive both to oneself and to the users.

In the housing project, I conducted thematic discussions using maps and photos. In the discussions, I framed a small part of the project, focusing on a couple of issues in individual intimate meetings with inhabitants in their homes. For instance, in one situation, I was looking at a map with one of the elderly houseowners and recognising important spots in the neighbourhood. The woman told me which shop she frequented and shared the reason why she particularly liked this shop. The reason was that the shop owner was flexible with the payment, letting her have necessities even if she could not pay him that day. In response, I shared with her that, when I was a child, there used to be a small shop in the block where I lived. In this shop, I could write in a black booklet what I had picked up, and then my mother would pay at the end of the month. I also told her that, unfortunately, this would not happen in Finland anymore. This exchange of experience brought us closer together and made me further appreciate the small scale of the neighbourhood for which I was designing. Additionally, these meetings revealed interesting personal points of view. When I compared this situation with when I met the same number of people in a workshop scenario, the individual intimate meetings were much more time-consuming, but they had a qualitative advantage.
Likewise, in the discussions following the design-probing exercises, I perceived the connections between me and the inhabitants to be personal and intimate. The reason for this might have been that I had learned a lot about the participants through the exercises prior to the discussions. Due to this I felt relaxed, as if I were visiting somebody I already knew, and therefore I was open to sharing about myself when meeting in person, to give something back to the participants. For their part, having had time to do the exercises and in full knowledge of the purpose of the meeting might have made them trust me. Additionally, my informal and relaxed attitude due to the background probing might have reflected onto them as well.

Nevertheless, even if the ratio of the number of participants to the time spent was smaller in the design probing and thematic discussions than in the workshops, the responses and results achieved through the smaller and more intimate meetings were richer and more diverse than from the workshops. When studying the results of the intimate forms of participation, I could see that they had created a deeper connection between the actors. It was possible for me and the inhabitants to establish a foundation for deep empathic encounters. In this regard, I would prioritise quality, not quantity.

As the personal encounters were deeper, I also identified how sensitive these interactions were. As soon as there was a disturbance in the form of misunderstandings or inaccurate translations, we changed the direction of the meeting. Thus, architects’ and designers’ capacity to be sensitive is a characteristic that we can develop, but before we can collaborate horizontally, we need to know ourselves and be open to getting to know the other people in the design process.

In the intimate and sensitive approach of empathy in depth, the distance between actors is reduced in comparison with the other registers of empathy. In this register, my experience is tightly combined and sometimes even merged with the experience of the other. As an example of this, in one of the situations from the design process of the maternity ward, when meeting with a couple of traditional birth attendants, they demonstrated how to use the little wooden stool commonly used for delivery. I and my research assistant, who had not given birth herself, tried out the stool, simulating that we were giving birth. The traditional birth attendants found this quite amusing, we were all giggling together for a long time (Figs. 32 and 33). It was not what the interviewees had said, but this relaxed experience that made us understand why most women in the villages preferred to give birth in the house of the TBA, rather than in the hospital. In addition to being able to choose her birthing position and follow local indigenous traditions of delivery, this is the place where she has the possibility to relax, be herself and maintain her dignity. Here she is not deprived of her agency.

When empathising deeply, designers/architects and inhabitants/users willingly step closer to each other, seek to acknowledge both the similarities and differences between them, look forward to learning from each other, and actively try to reduce any existing social distance with compassion. This can happen when architects and designers are able to establish an intimate connection with the environment, culture and inhabitants or users. To engage deeply is not always an easy task and requires some effort. It might be uncomfortable, with moments of unease when differences in thoughts, views or opinions appear which can potentially result in conflict. For designers/architects to actively enhance horizontality in the design process, they need to be sensitive towards both users and towards themselves in order to establish a connection of trust with the users and to follow their intuition. When all actors can experience empathy on a deep level, the process becomes a foundation for trust and empowers the people involved with the freedom of choice. This form of design and architecture practice functions as a bridge connecting the various stakeholders in the society and promotes transformative values (Fig. 34).
Figure 33. Angela Giacomazzi, (Deputy Hospital Director for Kendwa hospital and my translator) trying a delivery stool at the home of one of the traditional birth attendants.
Figure 34. The design of the maternity ward in Basta, Odisha, India, would not have been similar if the local people would not have been part of the design process. Debashree Jena worships for better luck of the newly opened facility. Photo Abhay Mohanty.
6  ESTABLISHING AN EMPATHIC APPROACH TO DESIGN FOR THE MAJORITY POPULATION

In this final chapter of my introduction to the thesis, I discuss how my research contributes to the related societal, professional and research field. I also reflect on my research journey, starting with the wide picture of overall sustainability and narrowing it down to socio-cultural sustainability. I continue with my reflections on co-design both in research and between designers and users, with a particular focus on the connections between actors, and ending with a final close look at empathy.

In the pursuit of sustainable development globally, I agree with Rahul Mehrotra (2020), when he argues that “all architecture must place the social questions and society at the centre of its agenda.” Architects, designers, and users — we all have our responsibility. Therefore, the socio-cultural segment of sustainability is crucial because everyone, including the marginalised, underprivileged and vulnerable, needs an opportunity to collaborate for sustainability. However, we as architects and designers have the agency and can increase our capacity to deal with these challenges.

From my experience in practice with multiple projects in my professional life as well as in the projects included in this thesis, I can claim that sustainable, culturally knowledgeable, skilfully designed architecture with a social agenda can improve the living conditions of communities. This kind of architectural practice can strengthen gender equality and mitigate poverty. It is not global and replicable (Akama & Yee, 2016), rather, it has to be deeply rooted locally, and this can be achieved through collaboration between different actors in the society. We as architects and designers can support this by following Mehrotra’s (2020) suggestion of bridging stakeholders and grassroots levels vertically and seeing our profession as a bridge practice, with the mission to connect actors with each other and facilitate collaboration. As every community is different, the means to collaborate needs to be developed according to local circumstances. Based on the experience of my previous work and through this research, I argue that in order to co-design, in the real sense of the word, we architects/designers are required to make use of our ability to empathise. This would help us to understand comprehensively the local living conditions and know-how as well as the future aspirations of the people for whom we are designing.

As an example of this line of thought, we can imagine a desirable sustainable building process in a low- to middle-income country. Firstly, the architects would involve the local people in the design process of a building. The local people would share their knowledge, needs and wishes while learning about other possibilities and options for giving birth. In Odisha, the mothers, who out of necessity performed a silent demonstration by placing their babies on the floors of the corridors in Balasore Hospital, gained visibility and their silent voices were heard. However, as the building projects did not advance within the time constraints of this project, these kinds of process had an impact. I see it as obvious that the level of the impact of social sustainability depends on the number of people involved and, even more so, on the quality and depth of the involvement.

executed with sensibility. Secondly, the construction of the building would be sustainable because it would utilise recycled or locally available materials in line with the local building principles that have been adapted to the local climatic conditions through time, trial and error. This knowledge would have been obtained through understanding the local environment, culture, architectural heritage and building traditions and the understanding would spring from engaging with local people, who would share their knowledge on the matter. Thirdly, by building with locals rather than for them, the construction process would become an education in sustainable technologies for both the dwellers-to-be and the architects. Additionally, both sides could learn different things from each other regarding the utilisation of recycled or recyclable materials as structural elements. This could be an aspect that the local people would have been implementing out of necessity; they would have the know-how to take advantage of the material, while the architects could turn recycling into a willingly chosen aesthetic solution for everybody. Moreover, the people who would be constructing the building could maintain the know-how of local building traditions and treatment of local materials, and in this way preserve the cultural heritage. This kind of a process would result in a building rooted in local culture that would create a sense of pride for the inhabitants, the local community, and probably even beyond. Finally, in each step of the process, there was the factor of collaboration.

Ideally, the aspects of sustainability and mutual learning become part of a project. However, in the cases of this research, only some of the aspects referred to above took place. The inhabitants of Ng’amo became involved in the future plans for their neighbourhood and the mothers and mothers-to-be in Odisha and Zanzibar had the opportunity to share their concerns and hopes while learning about other possibilities and options for giving birth. In Odisha, the mothers, who out of necessity performed a silent demonstration by placing their babies on the floors of the corridors in Balasore Hospital, gained visibility and their silent voices were heard. However, as the building projects did not advance within the time constraints of this project, the respective know-how regarding material aspects of sustainability and local construction have not yet been shared. Only the refurbishment of the existing maternity ward in India was executed, but in this case no new additional construction material was introduced. Nevertheless, with regards to social sustainability, the involvement of the people in the design process had an impact. I see it as obvious that the level of the impact of social sustainability depends on the number of people involved and, even more so, on the quality and depth of the involvement.
Collaboration skills are an advantage in participatory, interdisciplinary and transdisciplinary work. The quality of the collaboration depends on the parties’ capacity to empathise. During this research journey, I learned that we are able to inquire into, expand and deepen our empathic skills that eventually enhance the proximity between people. The closer we can be to each other in this process of change, though often not consensus-driven, the stronger the possibilities are for the emergence of innovative solutions that can guide us towards a better future and respond to the sustainability challenges we are facing today. Additionally, to resolve these challenges, we need to work transdisciplinarily, engaging all potential stakeholders in the pursuit of emergent solutions. If we, as architects, want to make a difference, one way is to see ourselves as facilitators of collaboration, connecting people from different social levels and consolidating knowledge from several disciplines. Combining this facilitation with locally adapted co-design that emphasises empathy, awareness and flexibility could potentially guide the growth of cities in the lower income parts of the world in a socially sustainable, inclusive and humane direction. This kind of practice could of course be called activism, according to Zaera-Polo’s (2016) definition, however, the word activism suggests that the practice would be out of the ordinary, practised by a marginal number of the professionals. On the contrary, it is my belief this kind of approach should be the ordinary, mainstream way of practising design and architecture.

It is thought provoking that the methodology of empathic design that was originally developed to contribute to business innovation can also support the achievement of social and cultural sustainability in an architectural context. In this way, sharing our needs, thoughts, aspirations and dreams helps us to understand each other. However, an empathic design process does not guarantee a better design outcome, but it does have the potential to make a project locally grounded and help the users and inhabitants to feel ownership. Additionally, through empathy, the design process can become empowering for all involved actors: architects, designers, users and other stakeholders. Consequently, an empathic approach is a strategy for meeting the challenges of social and cultural sustainability in the design process.

As a long-time professional architect, I have often engaged inhabitants and users in my design projects. However, I have frequently perceived this engagement to be light, and its effect on the design result has not always been substantial. Now, having travelled this research journey, I have gained an understanding of collaborative and empathic design methodologies. These methodologies are well developed for use by designers in the Global North but have not been used or studied by architects in the Global South in the context of complex, large-scale and long-term spatial projects. Through this research, I came to realise that it is truly beneficial to take these methods from design as long as they are customised to the local socio-cultural setting.

The importance of acknowledging the origins, contexts and usages of empathy resonates with Akama and Yee’s (2016) critique of a universal and replicable assumption of co-design. I aim to provide an enriched and deepened terminology and conceptualisation for empathic approaches. As the approach to empathy was so dissimilar in the different fields of design, I recognised the need for foundational theoretical work. Thus, I studied the concept of empathy across design and architecture discourses, made it more coherent, and illustrated its significance in the design process. Furthermore, I structured these different approaches to empathy in three registers, in which we can operate throughout the design process. In addition, I assembled and recounted substantial empirical material through my design work in relation to theory building on this topic. This can be valuable because there is not much written on design methodologies for user engagement and empathy in the field of architectural design in low- to middle-income countries.

Empirically, I recognised the need for all three registers of empathy: distant, engaging and deep. I suggest aiming for the deepest possible level of empathy within the constraints of a project. However, circumstances do not always even allow for physical engagement with users. For instance, a situation like the current pandemic might interfere with a design process. Therefore, it is crucial to utilise and also further develop methods that allow us, as designers/architects, to empathise even from a distance. On the other hand, design probing, for instance, has the potential to be used from a distance and still enhance horizontal design. Thus, design probing would require further research in situations where a distance between actors is evident. When employing the method, I could detect the different registers of empathy throughout the entire process of design probing. Fundamental to this, a large portion of the empathic experience depends on the empathic ability, attitude and motivation of the designer/architect.

This research also has several limitations. Being practice-led research, it is therefore limited to a theoretical perspective that served practice. Moreover, even if the research group that I was part of was conducting transdisciplinary work, I did not include more than a limited number of disciplines in the theoretical scope of the thesis. In the research, I did not, for instance, include a broad background of sustainability sciences nor a historical perspective on architecture or collaborative work in the regions where the design projects were situated. Another field that would have been interesting to delve deeper into is neuroscience and, in particular, the emerging research on empathy in relation to mirror neurons. For architecture, this also has relevance with regards to our perception of space.
Other aspects that I also left out were political and gender-based theoretical discourses. The long-term dilemma, that I only touched upon, of the distinction between me and the other in development studies, anthropology and the discourse on intersectionality could have been a possible discussion to include in this research. The topic of intersectionality is emergent and important but, nevertheless, I intentionally left this discourse aside. This was not because it was irrelevant to the territory of this thesis, but because my focus was on co-design practices and empathy and I was forced to delimit my territory. In the end, the precise intention of this work was to prevent discrimination, reduce social distances, enhance connection and proximity between people, and support inclusive development. Further research should dig deeper into locally present methods of collaboration in the respective geographical fields and strive to develop co-design methods based on these. However, in conclusion, for this thesis, I made the decision to keep my main focus within design and architecture, taking methods from these fields of practice in the West. Regardless of its delimitations, I do see the potential of my work.

Furthermore, this thesis presents practice-led research in which practice happened before or at the same time as the research. This led to situations that were less organised and logical than they could have been had the order been reversed. The result can seem chaotic, even though it followed the logic of the momentary circumstances and events. Nevertheless, this drifting combination of theoretical understanding, methods and practice was an advantage because the rich influence of the empirical contexts motivated me to delve deeper into the literature and, thereby, gain more knowledge to serve the practice.

The decision to make a compilation thesis came naturally because the map of the journey was not laid out in the beginning and the influence of the research group was strong at that point. Thus, after having written one paper, it directed me towards the next one. This way of working meant that I developed as a researcher during the journey. The first texts would look different if I had written them today, having travelled further into the territory and learned along the way. For instance, regarding the use of vocabulary, there are variations in the papers when compared to this introduction. Today I would not use the word developing countries even though it has been in my vocabulary earlier, without properly reflecting at the time on the meaning of the definition. In this regard, I see the necessity for development towards a more sustainable way of living in all countries globally. Using that term exclusively for the low-middle income countries is misleading, because many of these countries have a smaller carbon footprint than countries traditionally considered to be developed. There are certainly other words and tones that no longer resonate well. However, this is the nature of a compilation thesis. If I had decided to write a monographic thesis, the journey would most probably have developed differently.

My reason for organising empathy into registers was not to build compartments that would exclude other modes of empathy. Rather, I envisage complementary registers that would appear in different circumstances and be topics for further research. However, the scope of my research was delimited to the close study of only two different architectural design projects in two countries. Thus, in these two cases, I arrived at a core that made sense. Nonetheless, this does not make my findings universal or generalisable. Therefore, the potential for additional relevant findings in different situations is high. Fortunately, the discourse on empathy in design and architecture is ongoing and evolving. Towards the end of the process with my thesis, I discovered Wina Smeenk's (2019) parallel doctoral thesis in design that presents a complex compass for empathic engagement, including the additional area of empathy in design. Her work does not touch upon low-to-middle-income countries, but it does include vulnerable users. Thus, it would be a useful tool for both researchers and practitioners in the Global South. As the pace of development in this part of the world is fast, all efforts in a humane and empathic direction are needed.

I found the choice of using empathy as a lens, a motivator and an aspiration for my research to be fruitful. The concept is multi-faceted. Its origin is in the German word Einfühlung in the theory of art, explaining the reactions in human beings when encountering the aesthetic as reflecting a yearning for unity of “subject and object, mind and body, man and world, or reasoning and the imagination” (Matravers, 2017, p. 77). Even if the definition of the word is different today, it resonates with the yearning for unity and understanding, and, in this case, the connection between human beings and architectural space. I invite further explorations into using the empathic registers in the design process. My focus has been on empathy between human beings, although other non-human living and non-living components could also be included in empathic relations, such as animals, plants or architectural space. However, I do not exclusively refer to architecture and design practice, but also to empathy in any practice because these findings can be customised to any field in the pursuit of a sustainable future. Love for life in general should guide our practice in any field. This could enhance sustainable development within the planetary boundaries (Rockström, 2015).

Through my work, I bridge practices across disciplines and discourses and between the North and the South. My interest in this research sprang from my architectural practice. However, I hope that architecture and design professionals, scholars from the high-income as well as the low-income countries, grass roots and design activists as well as people or insti-
tutions in power can all receive this research and find it useful. I wish to further develop this empathic approach to design for the world’s majority, which encourages designers’ and architects’ awareness of their empathic behaviour as well as self-awareness. This approach inspires us to include the users and inhabitants in an interactive, sensitive and transparent way. Consequently, we can build trust and capacity between actors, and the users get the possibility to make choices in the process. This is essential if we aim to root a project locally and, through that, enhance sustainability and well-being. This kind of approach is the antithesis of replicated parachute projects, designed without concern for place or users. When we execute humanitarian architecture and design with this empathic attitude, it does not matter if the architect is local or from abroad, from a different social group or from the neighbourhood, because the design springs from local culture, local engagement and mutual understanding. Reflecting on the critical discourse on humanitarian architecture and design, when these aspects are in place, architects can avoid neo-colonialist intrusion and promote inclusive participatory development.

Certainly, there are cases of design and architecture in which empathising is not enough and where there is a need for situated and in-depth knowledge in order to achieve a satisfying result. However, adding the broad spectrum of empathy as a mindful attitude to the design process has its benefits. Ideally, when combining the registers of empathy, the designers/architects, users/inhabitants and other stakeholders imagine, observe, engage with each other, share experiences and ultimately gain the possibility to form a collective understanding, regardless of the context of the design. Moreover, when we as designers/architects aim for horizontality in the design process, we are relaxed with uncertainty; we use our potential; and we invite intuition. Consequently, we can build a territory for the new to emerge and grow roots deeply in the local ground. Thus, I pose the question as to whether empathy between the actors in the design process could lead to spatial solutions that support empathic encounters. When I reflect on this with regard to the quotation at the beginning of this introduction, “The world we make in turn makes us, inscribing how we are being and becoming with others” (Akama, 2015, p. 267), my aspiration is that when we design in this spirit the created architecture potentially becomes an environment supporting encounters and activities with similar qualities.

I’m sitting on the barasa outside a house in Ng’ambo with Omar Muhammed Ali. He built his house himself in 1958. He is spending his days on the bench in front of the house as his legs are tired with age. 40 years ago, his mother planted a tree in front of the house. The tree is big now, one of the biggest in the area. I ask Bwana Omar if he thinks that trees are important in the city and in his neighbourhood. He sighs and tells me that for a long time he has been in favour of trees, and particularly in favour of this tree in front of his house. However, now he has come to the conclusion that, after all, the neighbours are more important than the trees. The roots of the tree are taking water from under the house of his neighbour Mama Barke and the roots are cracking the foundations of her house. Now Bwana Omar is ready to let go of the tree to keep up his good relations with his neighbour.

Ng’ambo, Zanzibar, 2016 (Fig. 35).
establishing an empathic approach to design for the majority population

Helena Sandman — Empathy Matters — Architecture for the world's majority

Figure 35. Bwana Omar’s tree, Ng’amo, Zanzibar, Tanzania, 2016.
REFERENCES


The world is urbanising rapidly, particularly in those regions where most people live. This results in sprawling, informal settlements and expansion of the built environment. To respond to these challenges in a sustainable way, architects and designers have an important role to play. The environments and spaces that they create also shape the people who inhabit them.

This thesis builds on findings from two architectural design projects conducted in Tanzania and India. It suggests ways for practitioners to bring actors in a design project closer to each other with the help of empathic engagement. The main conclusion is that applying a broad spectrum of empathy as a mindful attitude to the design process enhances horizontal collaboration. The findings support the argument that empathy matters in design — it is a profound ability that we need to cherish and develop.

Through designing with empathy, awareness and love for life, the spaces we create will support quality encounters between people.